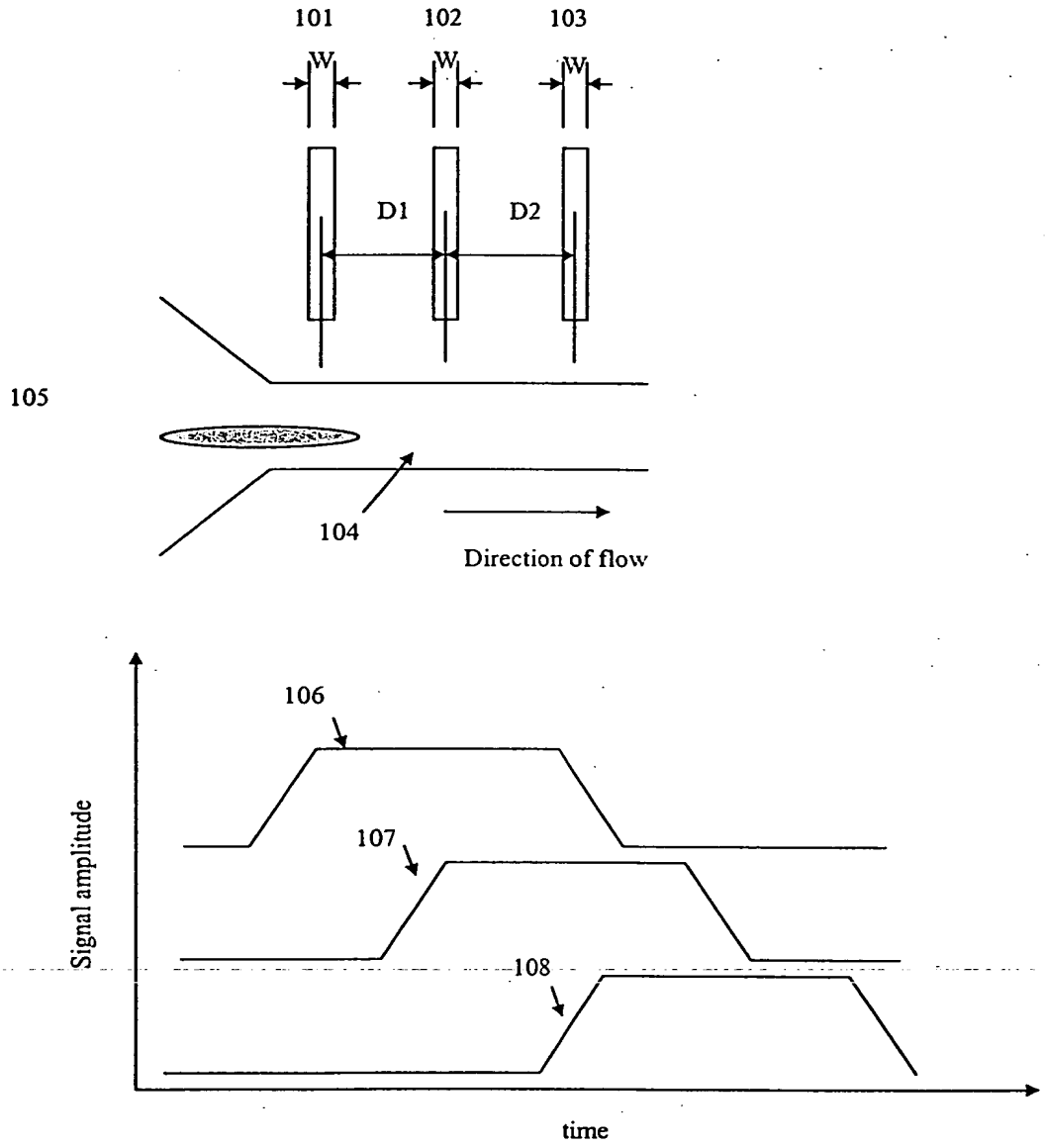
101
102
103
W
W
W
D1
D2
105
104
Direction of flow
106
107
108
Signal amplitude
time

Fig. 1

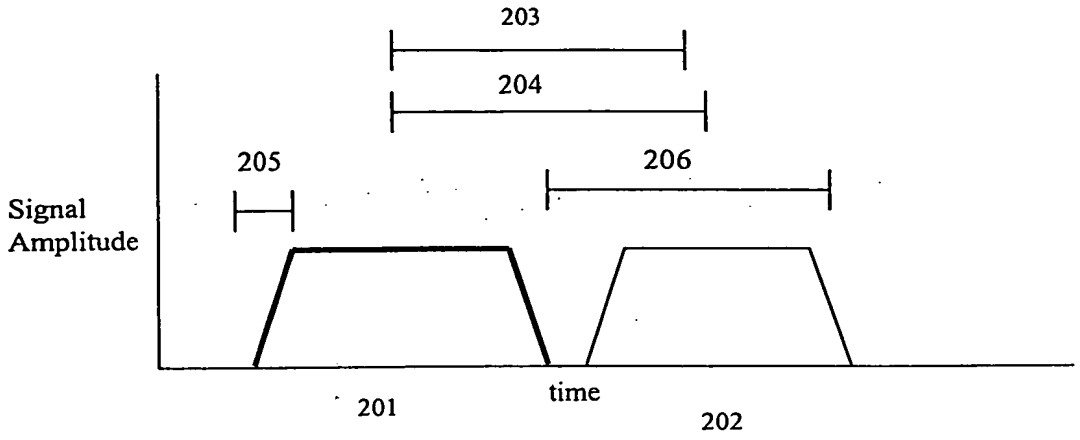

Fig. 2A

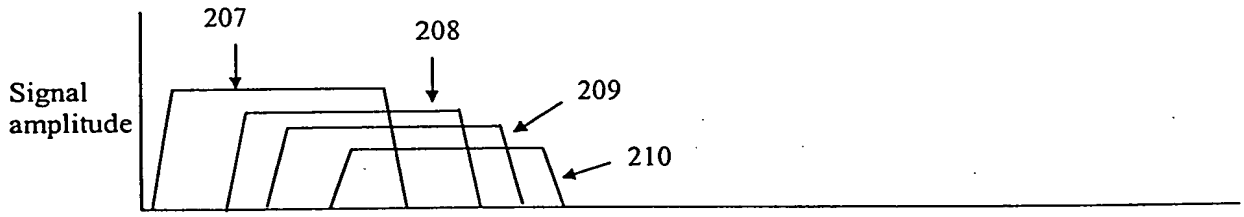

Fig. 2B

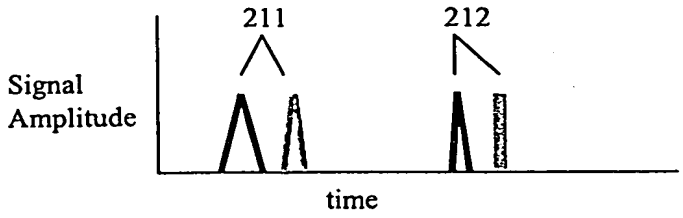

Fig. 2C

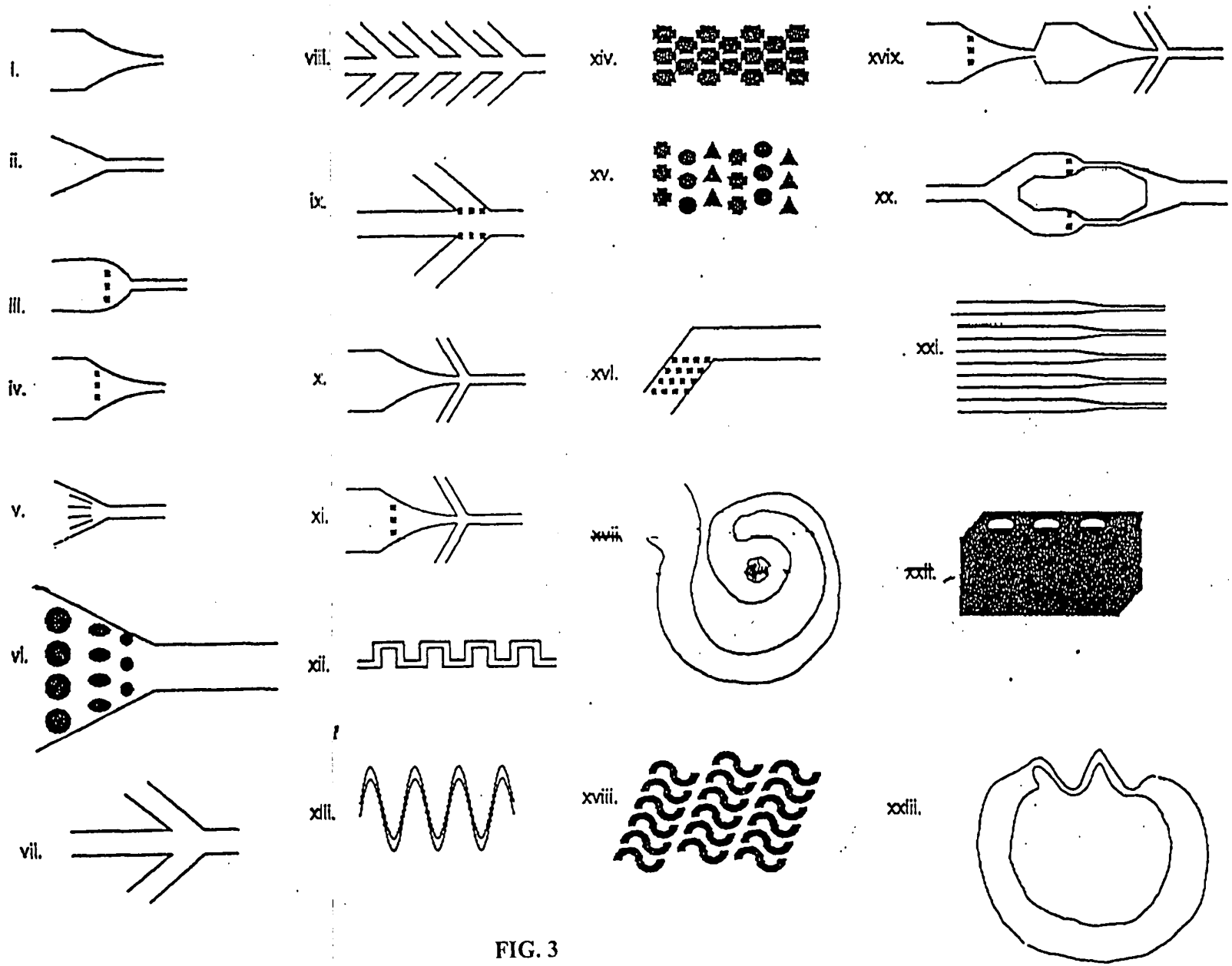
i.
ii.
iii.
iv.
v.
vi.
vii.
viii.
ix.
x.
xi.
xii.
xiii.
xiv.
xv.
xvi.
xvii.
xviii.
xvix.
xx.
xxi.
xxii.
xxiii.

FIG. 3

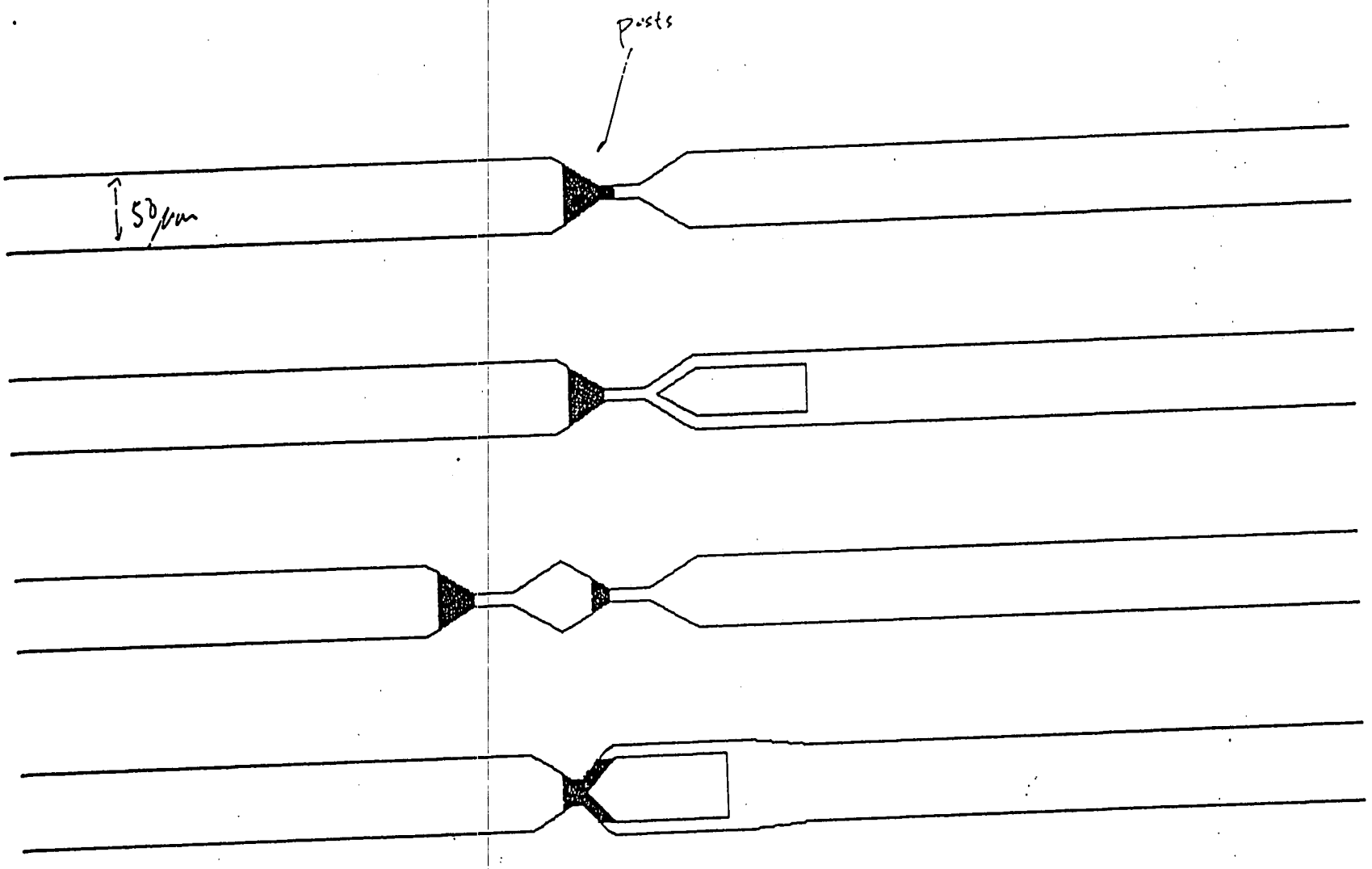

FIG. 4(a)

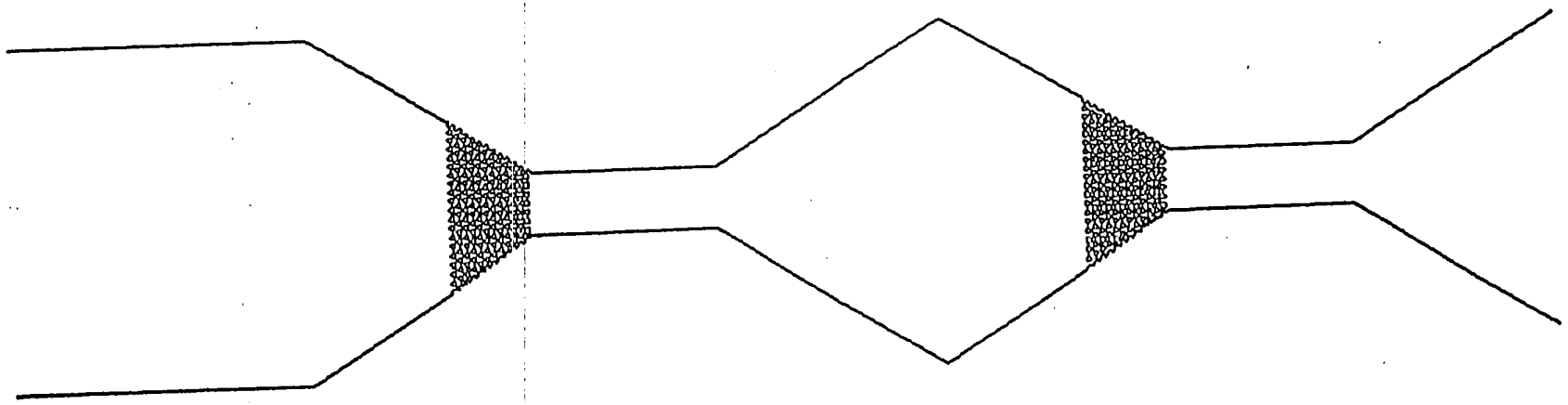

FIG. 4(b)

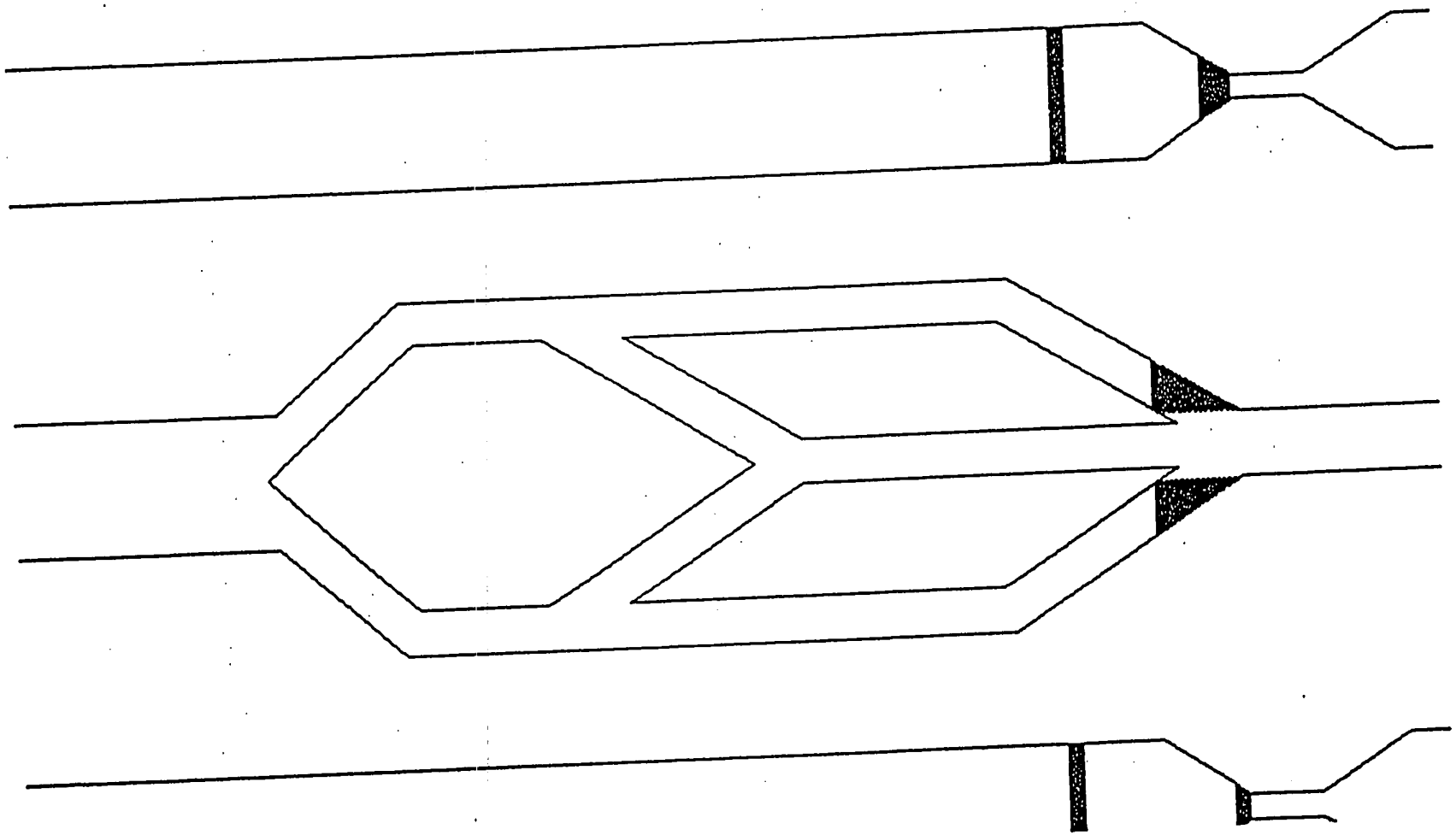

FIG. 4(c)

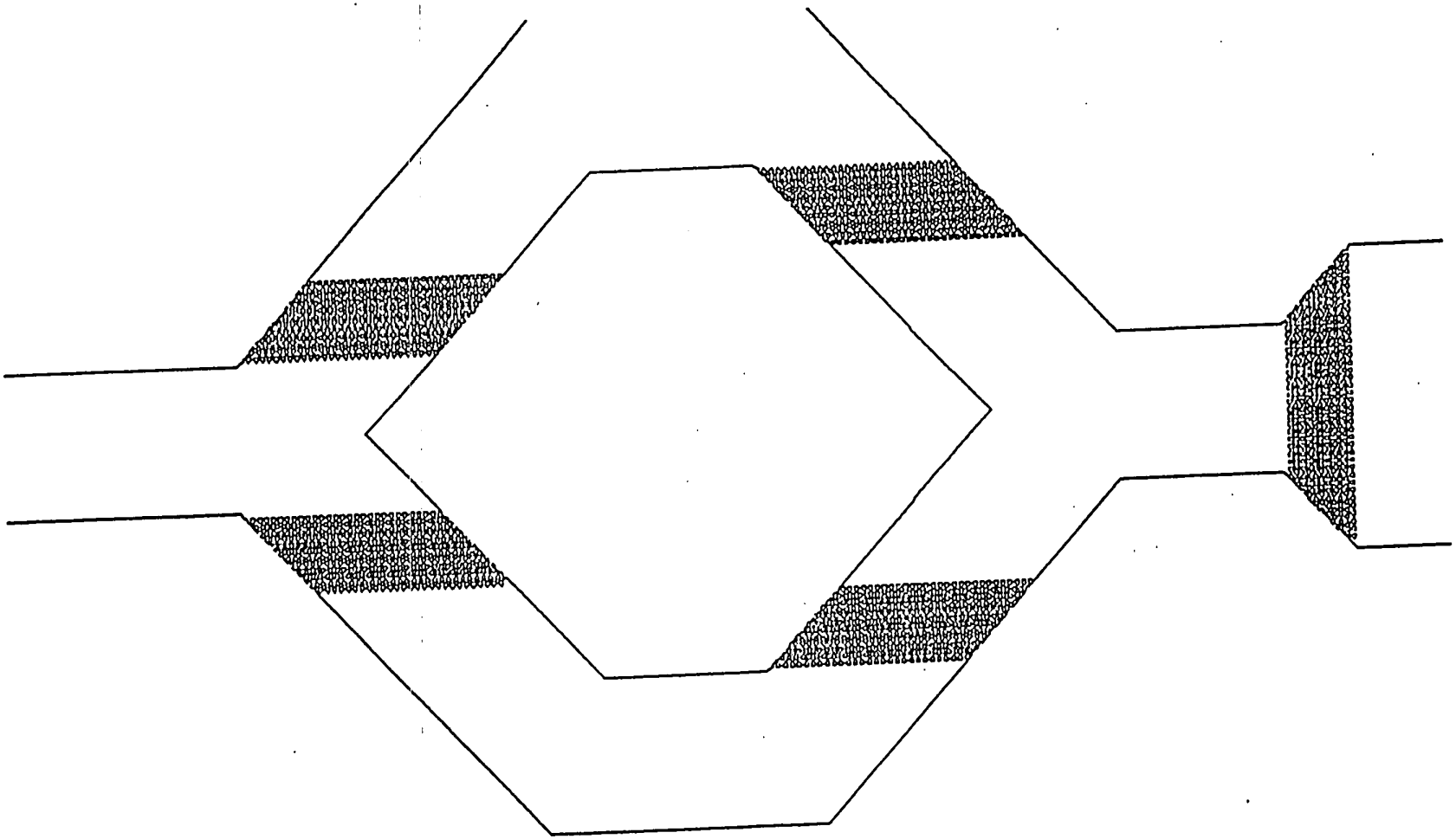

FIG. 4(d)

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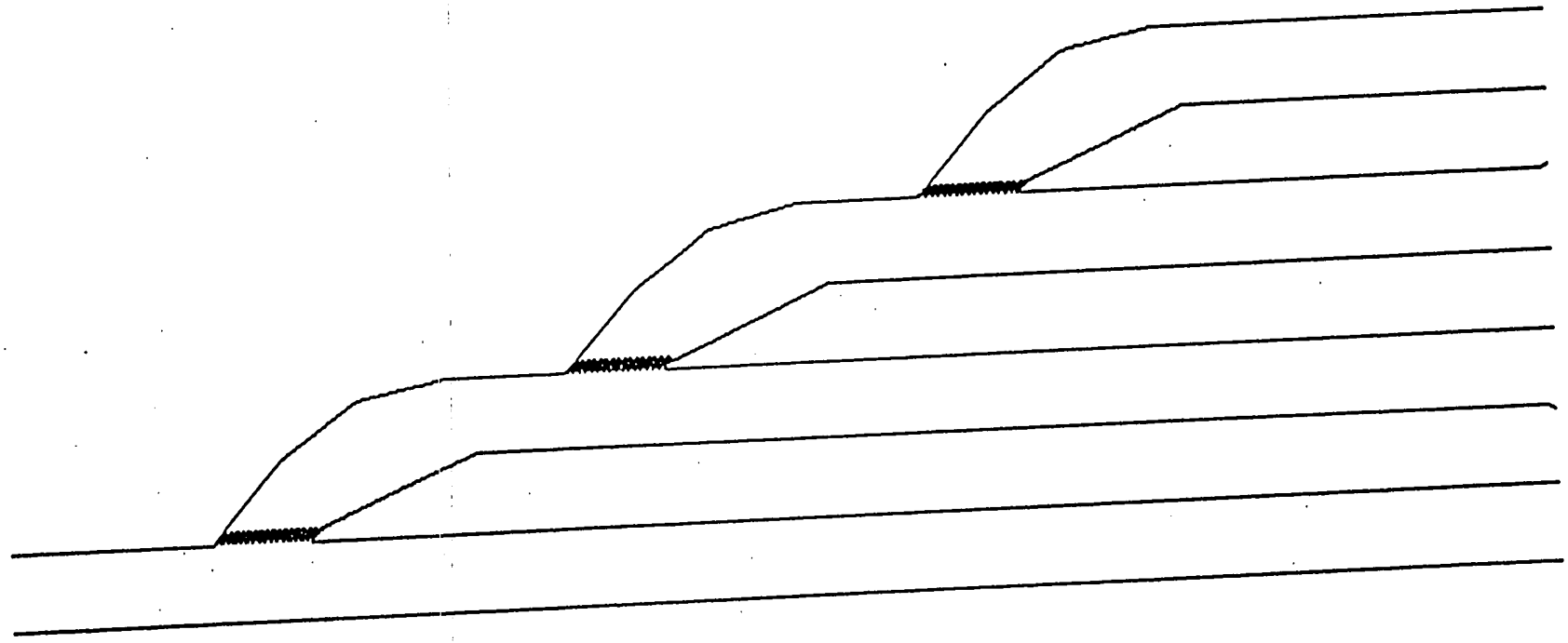

FIG. 4(e)

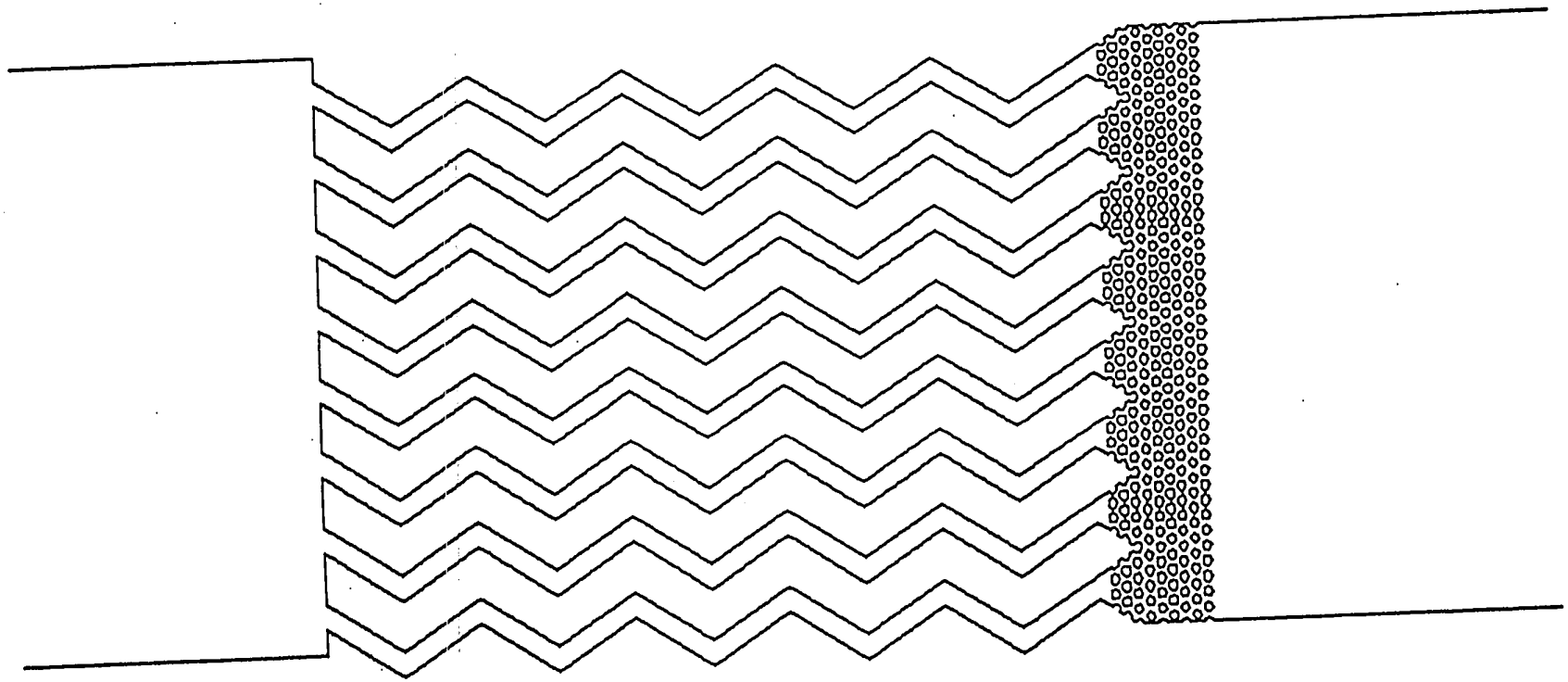

FIG. 4(f)

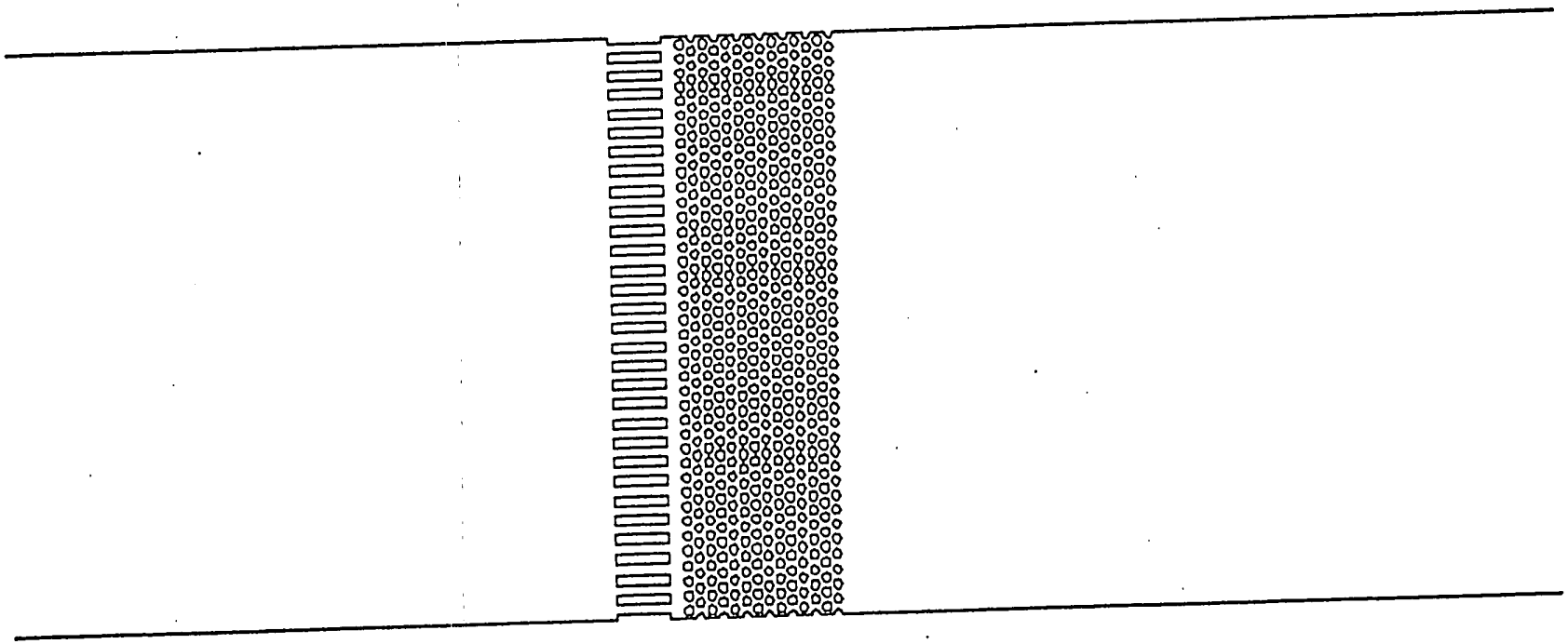

FIG. 4(g)

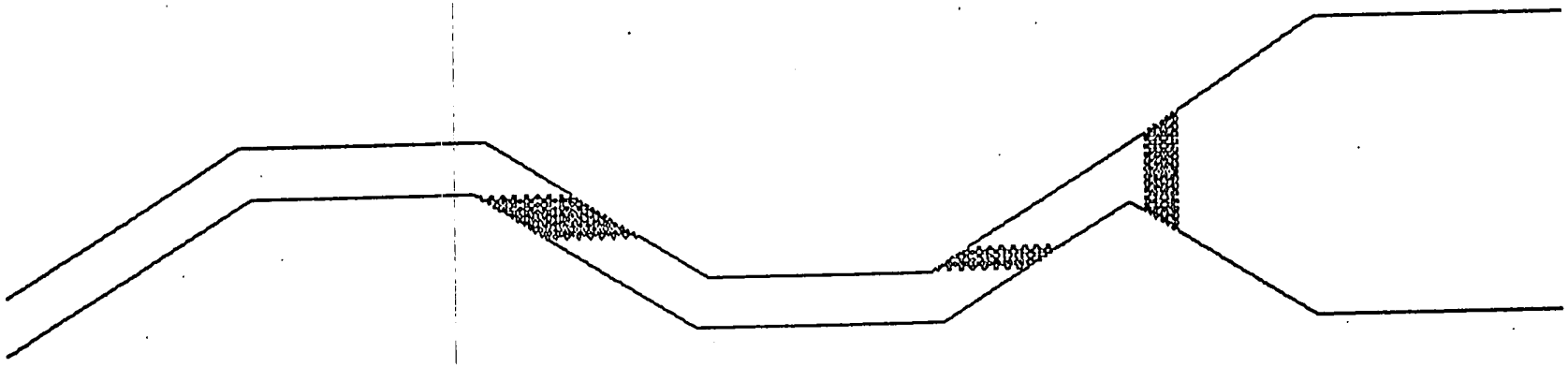

FIG. 4(h)

10066-021

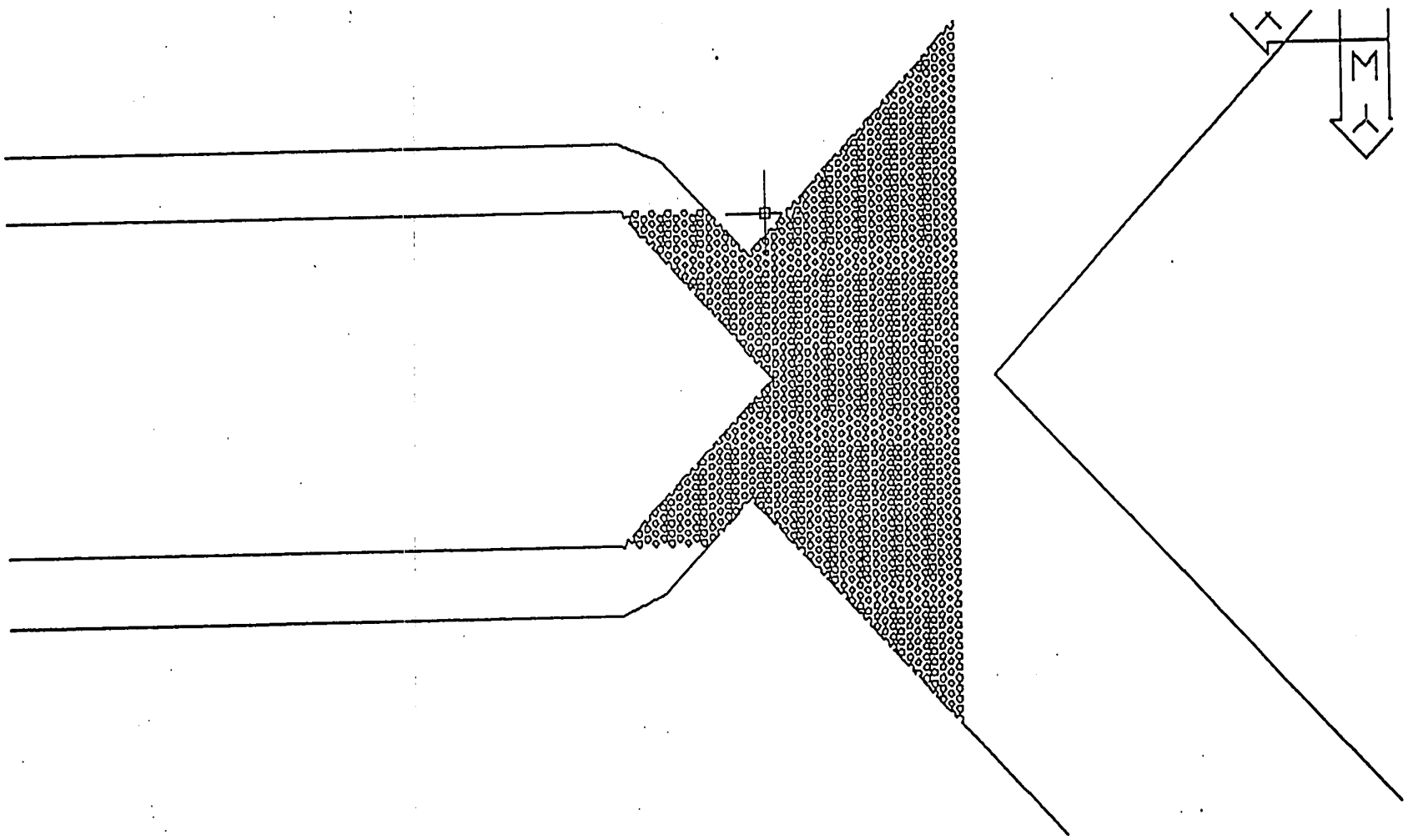

FIG. 4(i)

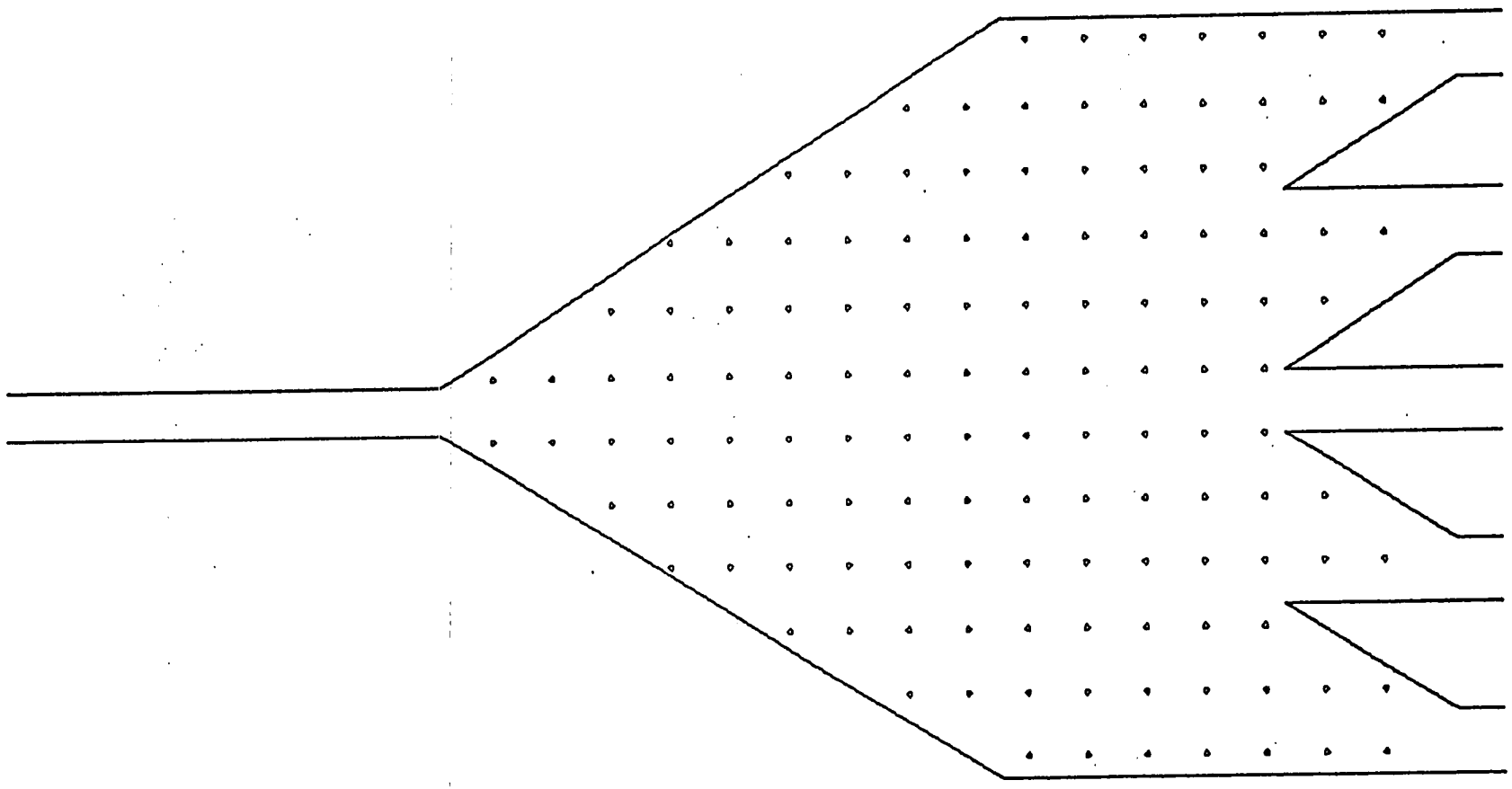

FIG. 4(j)

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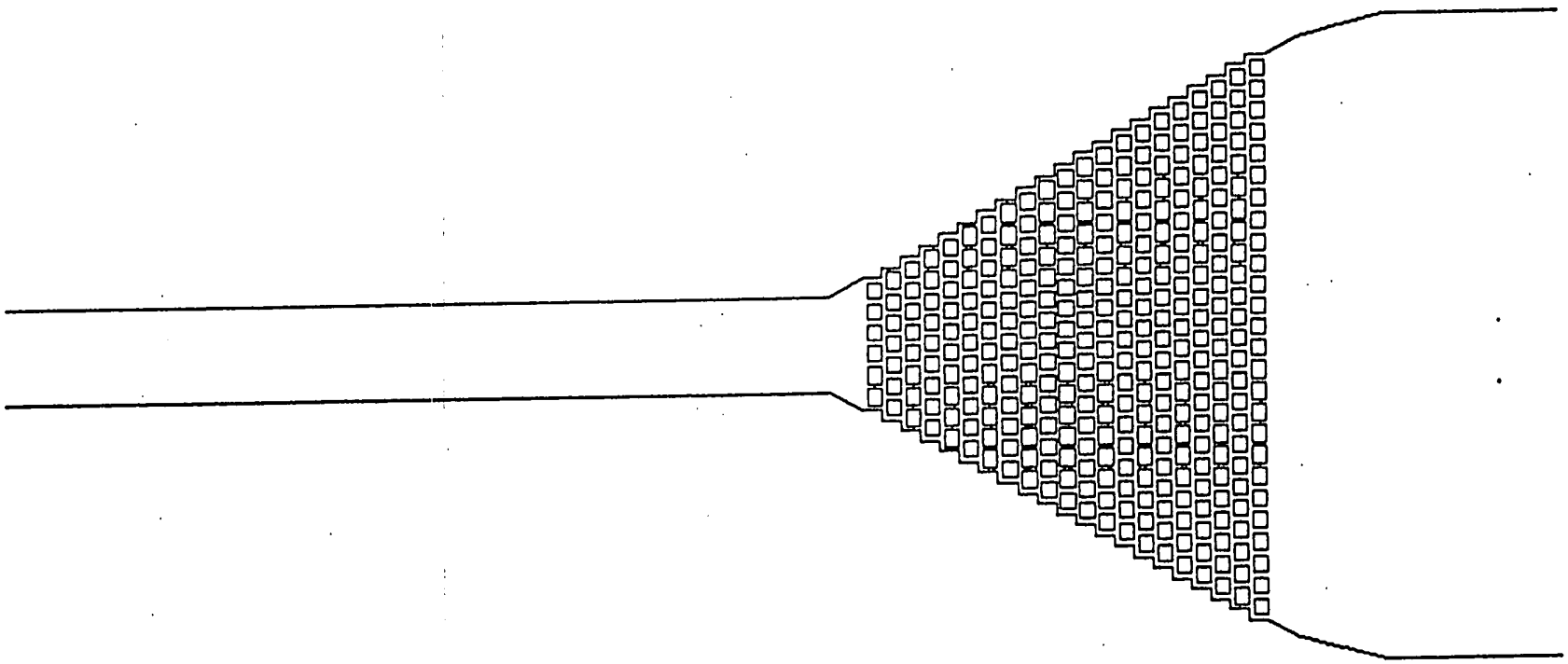


FIG. 4(k)

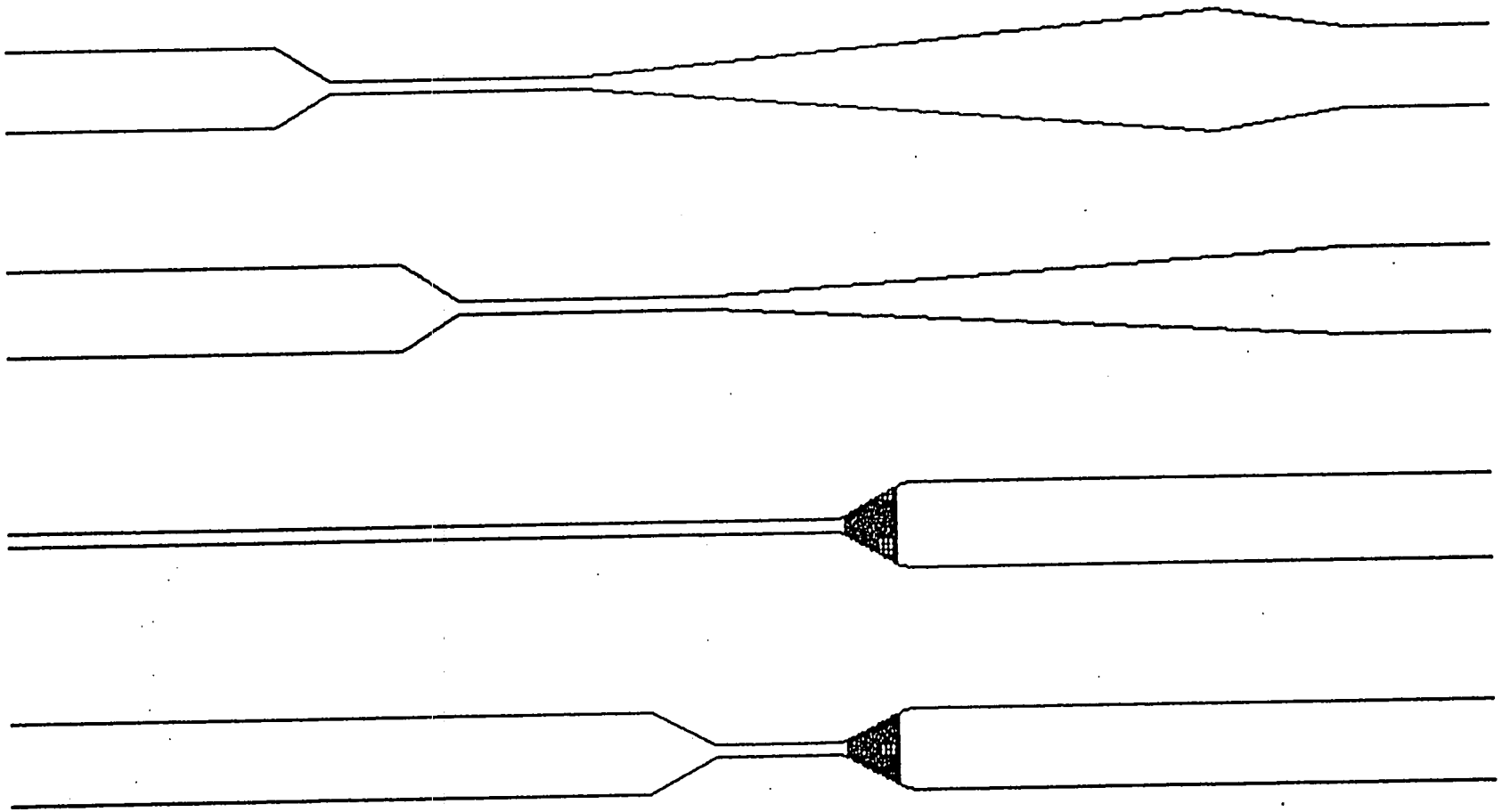


FIG. 4(l)

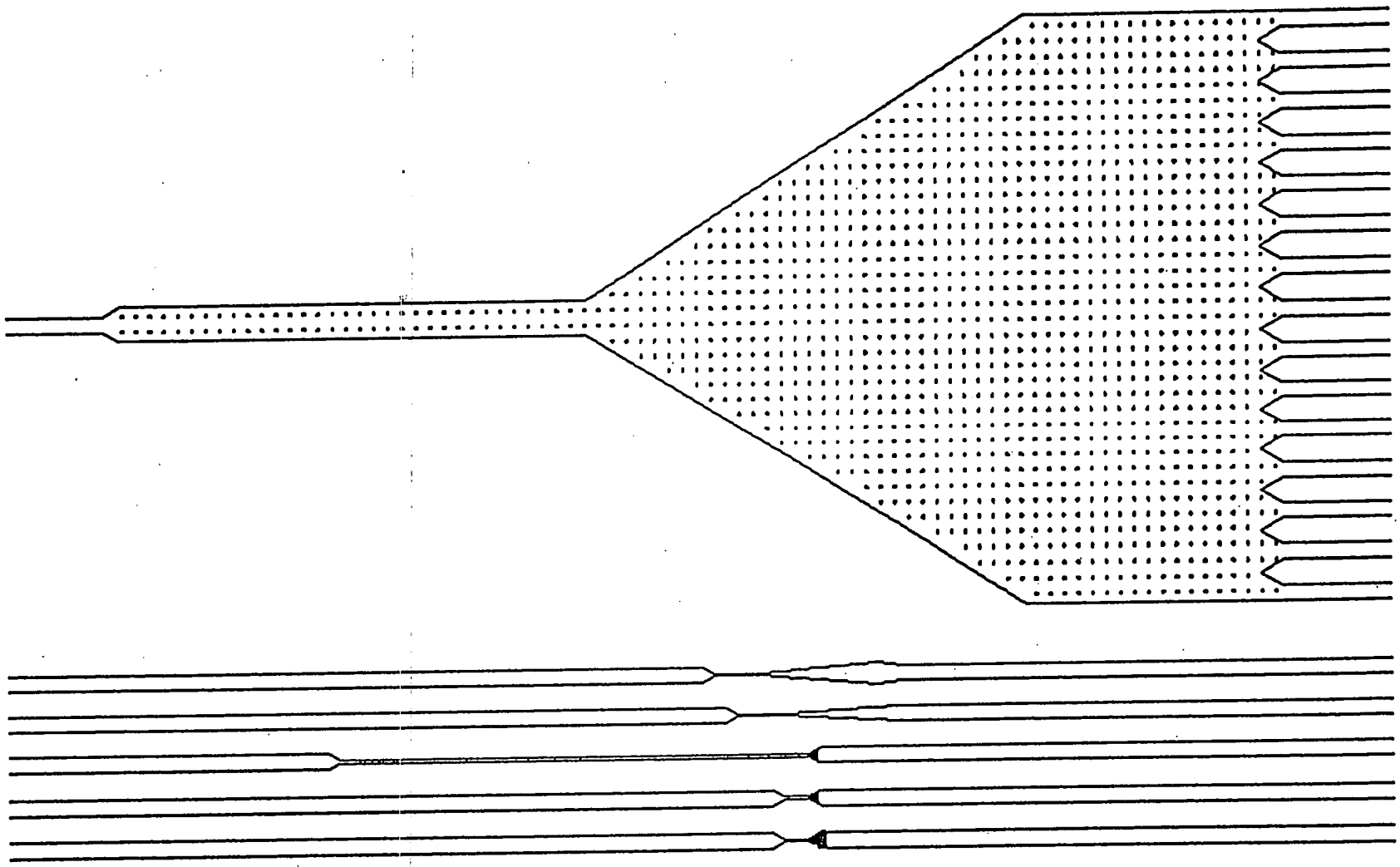


FIG. 4(m)

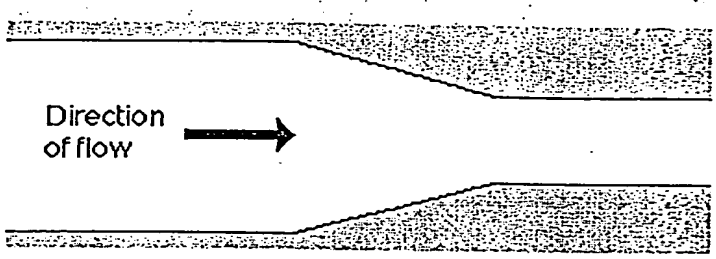


FIG. 5

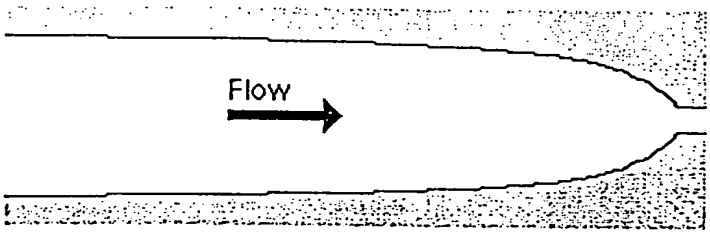


FIG. 6

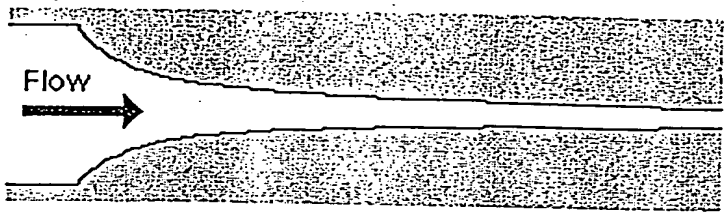


FIG. 7

EFS-Web 2.2.6 Build 6

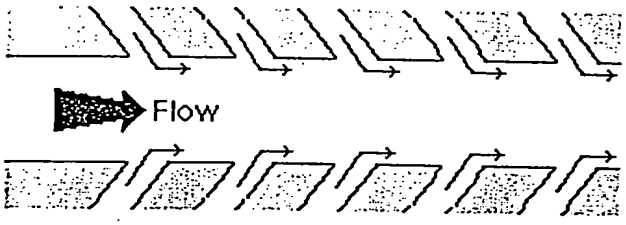


FIG. 8

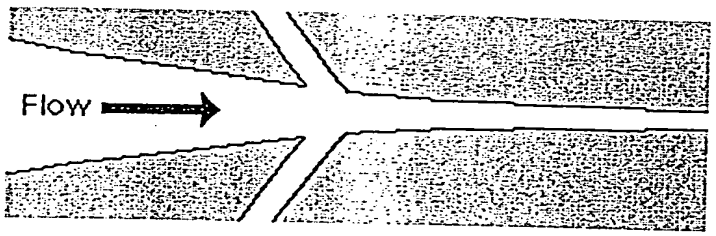


FIG. 9

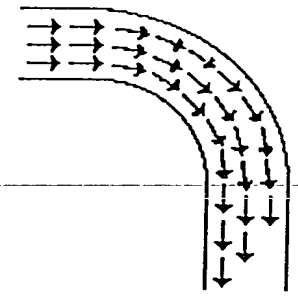


FIG. 10(a)

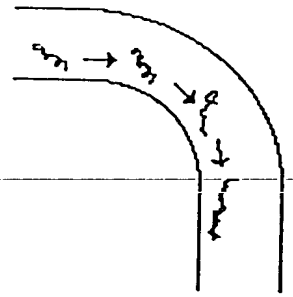


FIG. 10(b)

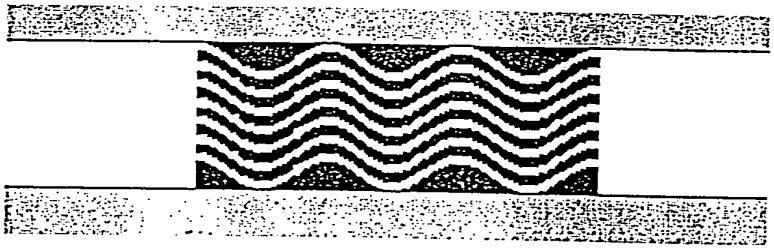


FIG. 11

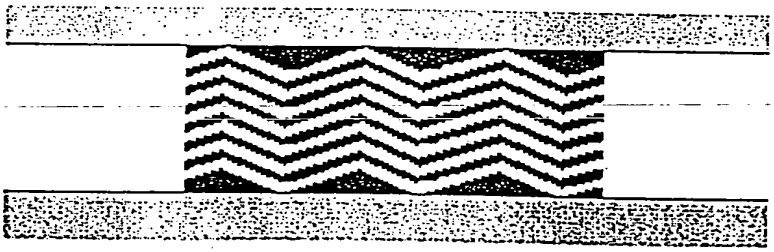


FIG. 12

EFS ID: 2540403
Application No. 09/894,502

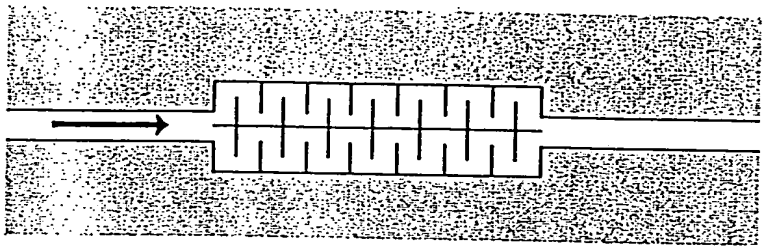


FIG. 13

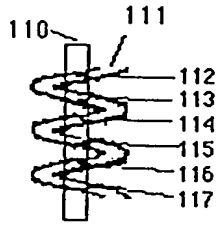


FIG. 14

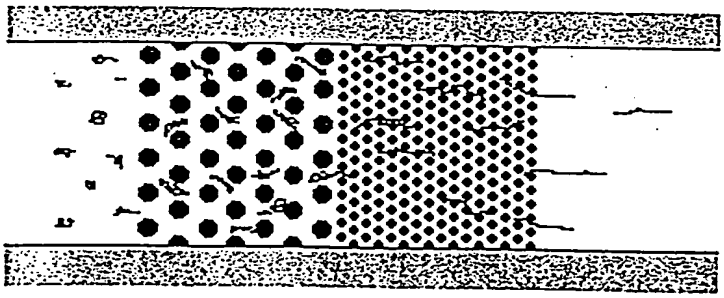


FIG. 15

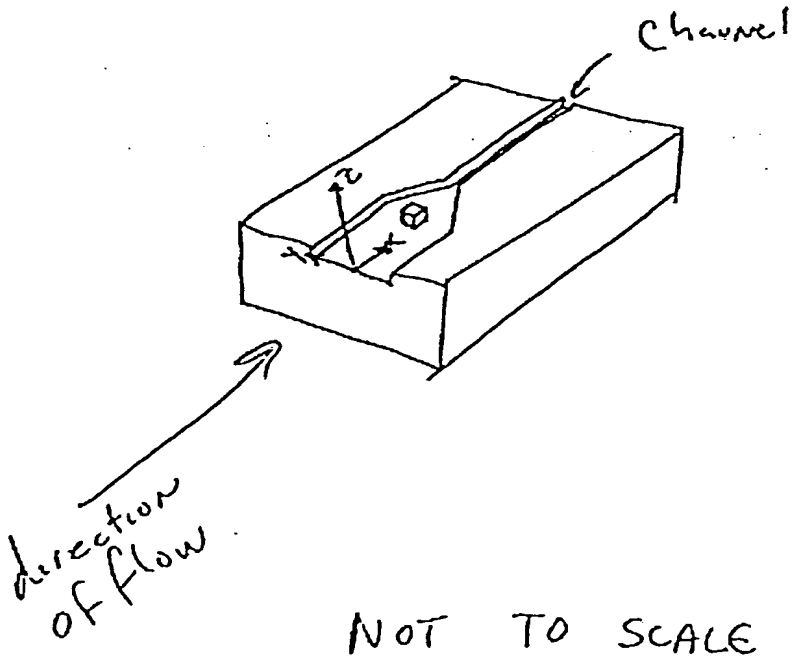


FIG. 16

Date: 02/24/2004 Time: 09:42:48

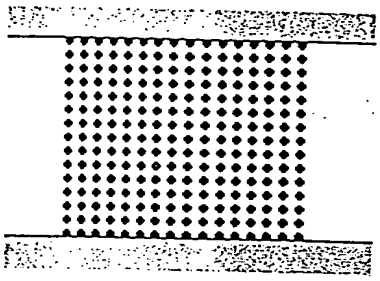


FIG. 17(a)

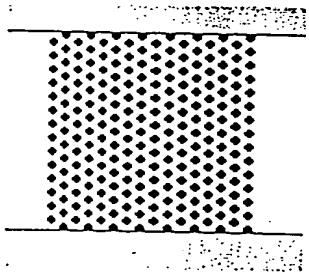


FIG. 17(b)

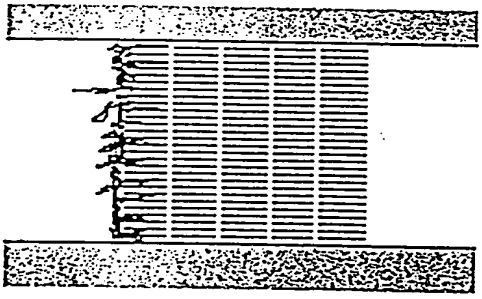


FIG. 18

09784352-021401

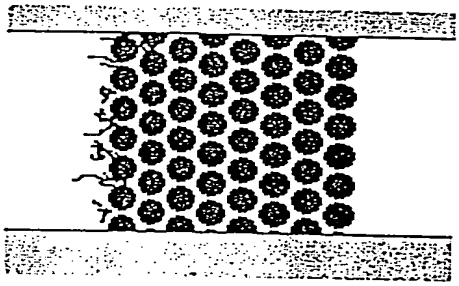


FIG. 19

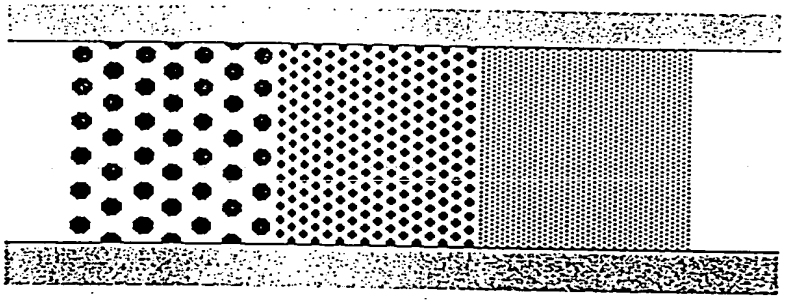


FIG. 20

PCT/US2004/029360

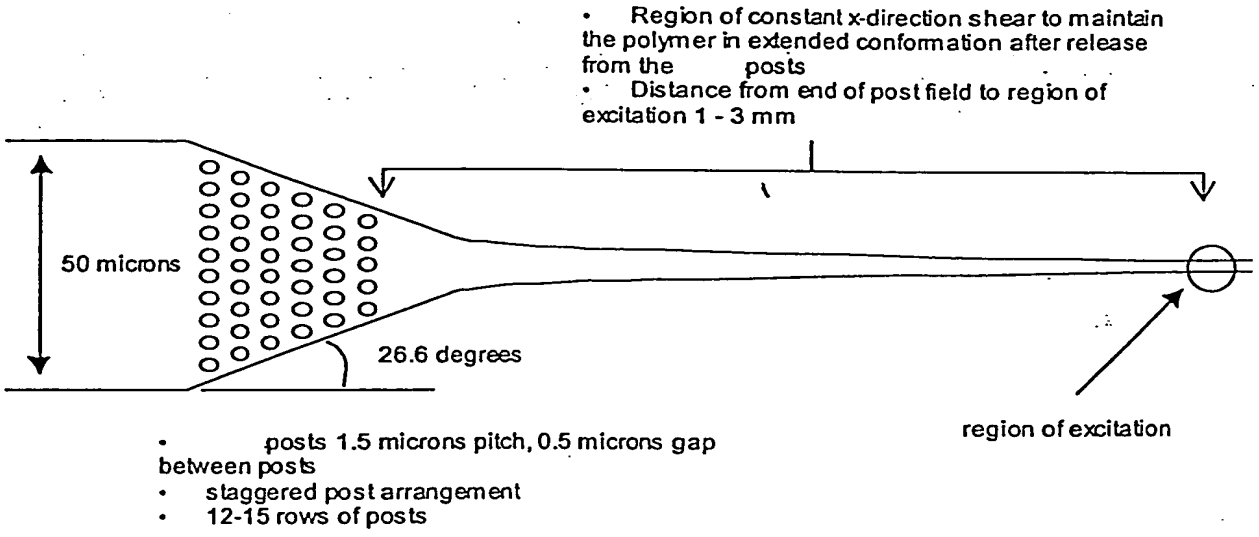
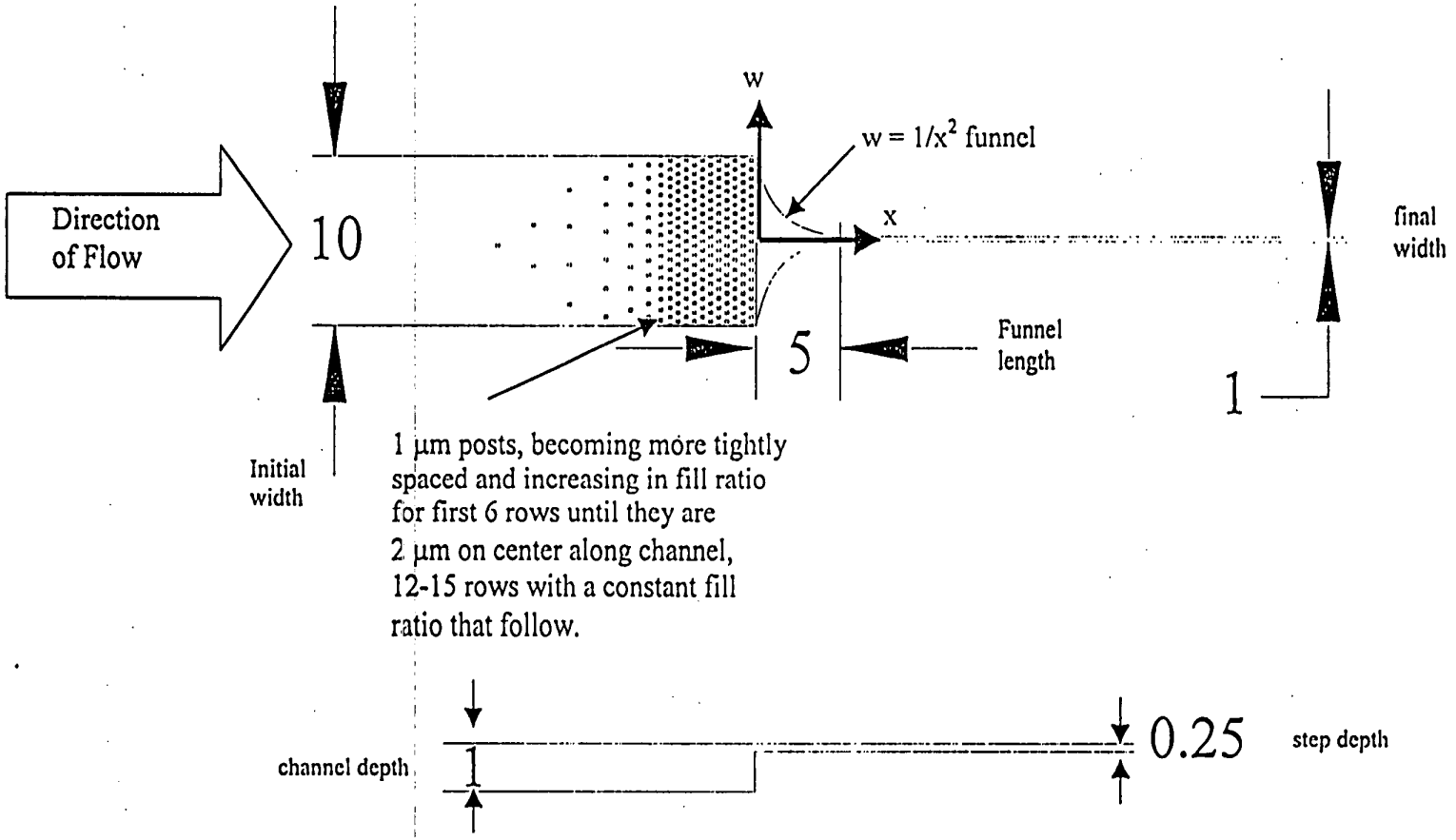


FIG. 21

Patent Application Publication

Preferred Dimensions:
Initial width / final width > 10
Funnel length < 0.5*initial width
Funnel faster than 1/x
Step depth / channel depth <= 1/4



Channel Depth Profile

Not To Scale, All Dimensions In

FIG. 22

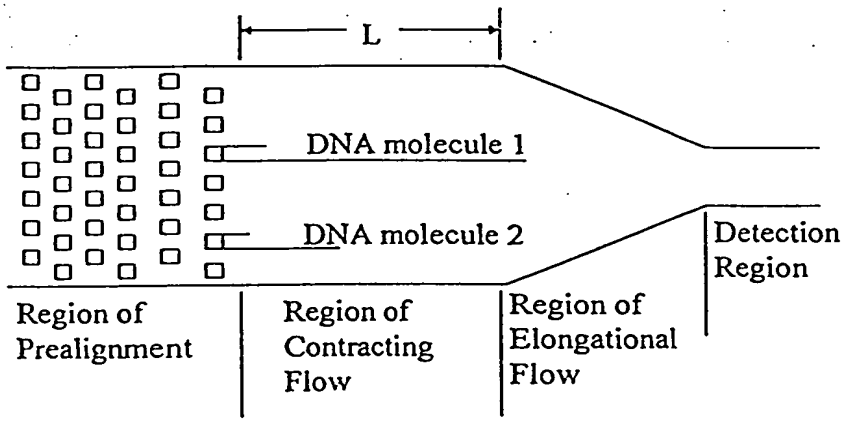

L
DNA molecule 1
DNA molecule 2
Detection Region
Region of Prealignment
Region of Contracting Flow
Region of Elongational Flow

FIG. 23

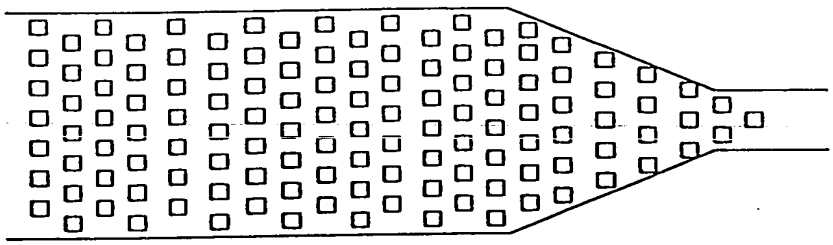


FIG. 24

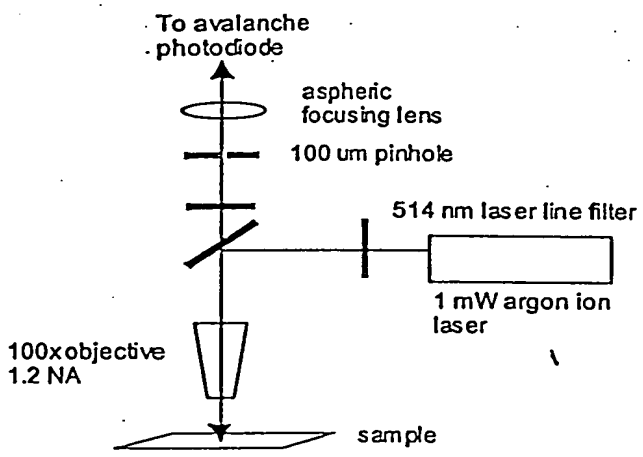


FIG. 25

EFS ID: 2458260

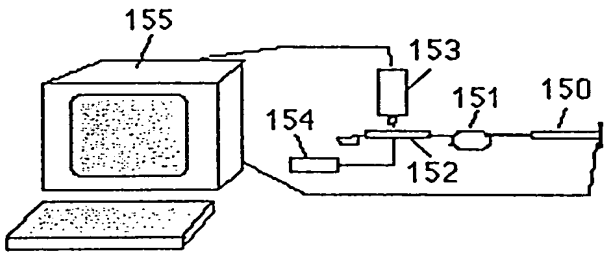


FIG. 26

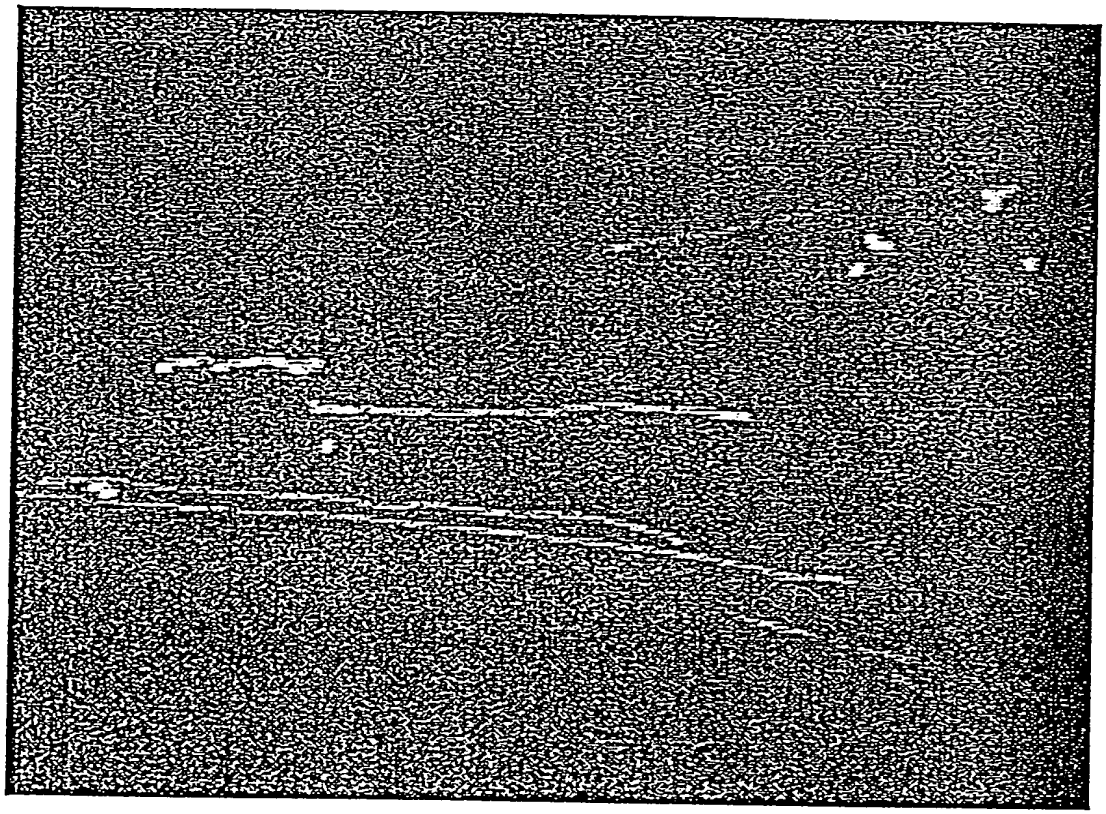


FIG. 27

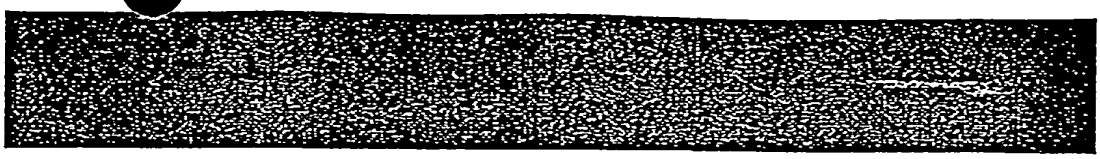


FIG. 28(a)

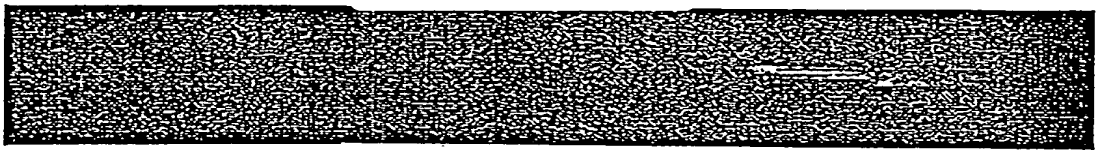


FIG. 28(b)

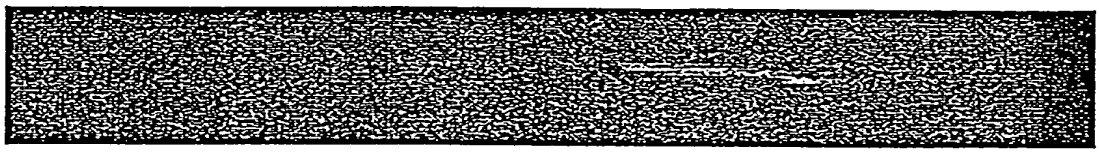


FIG. 28(c)

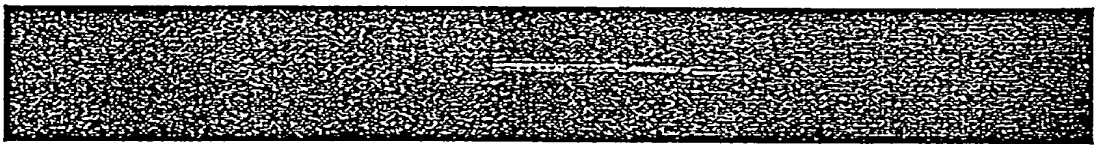


FIG. 28(d)

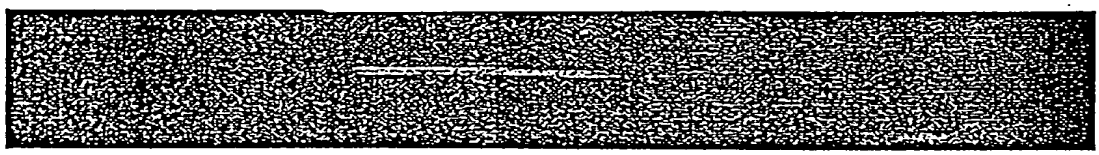


FIG. 28(e)

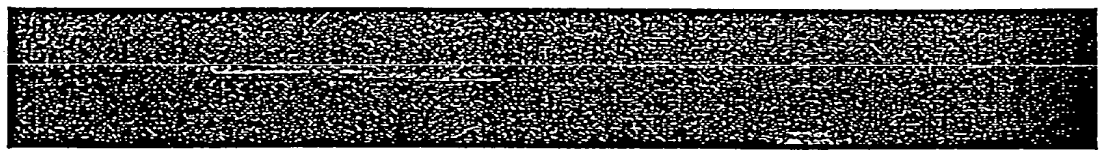


FIG. 28(f)

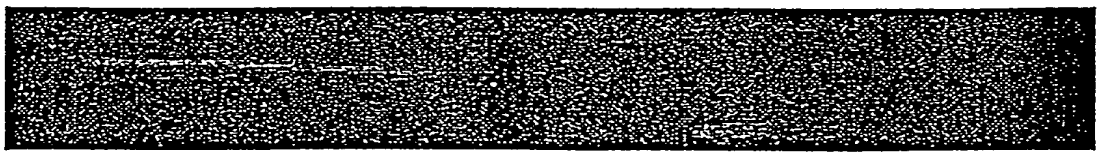


FIG. 28(g)

EFS ID: 2748404

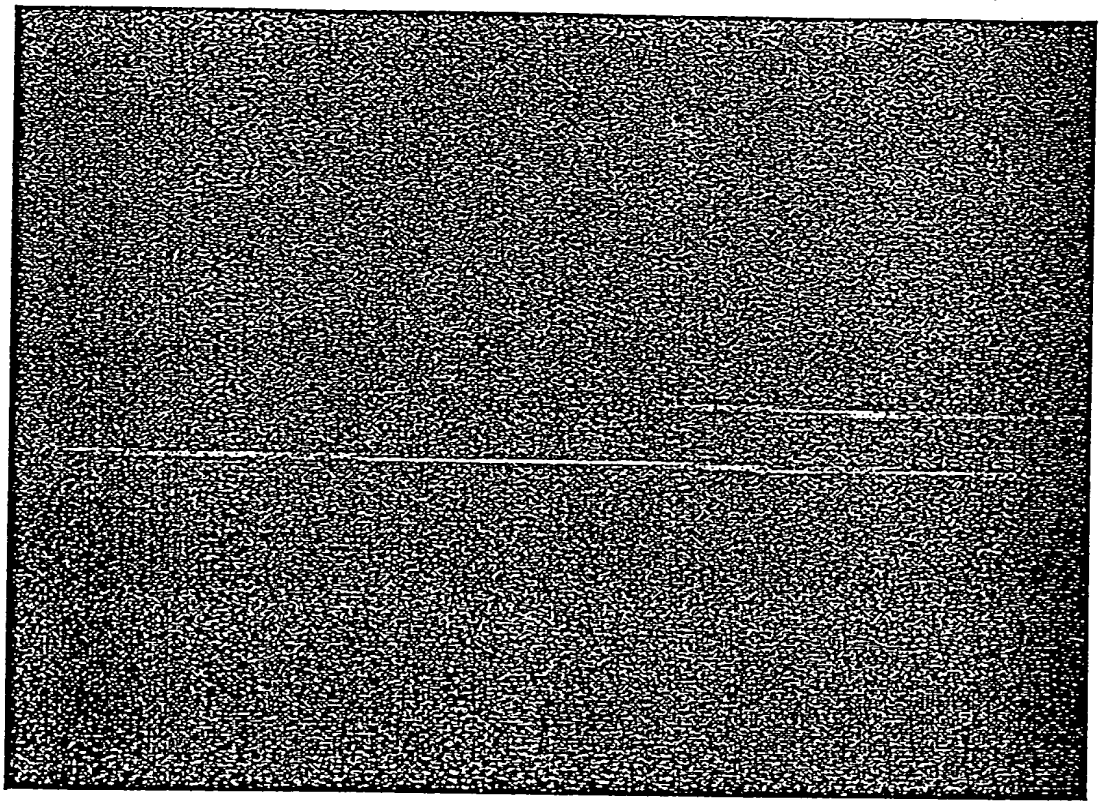


FIG. 29

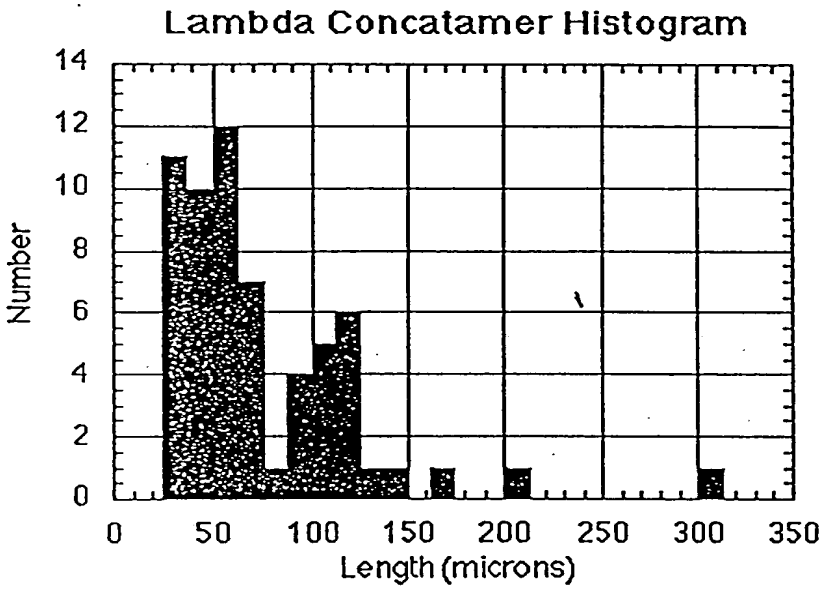

Lambda Concatamer Histogram
Number
Length (microns)
0
2
4
6
8
10
12
14
0
50
100
150
200
250
300
350

FIG. 30

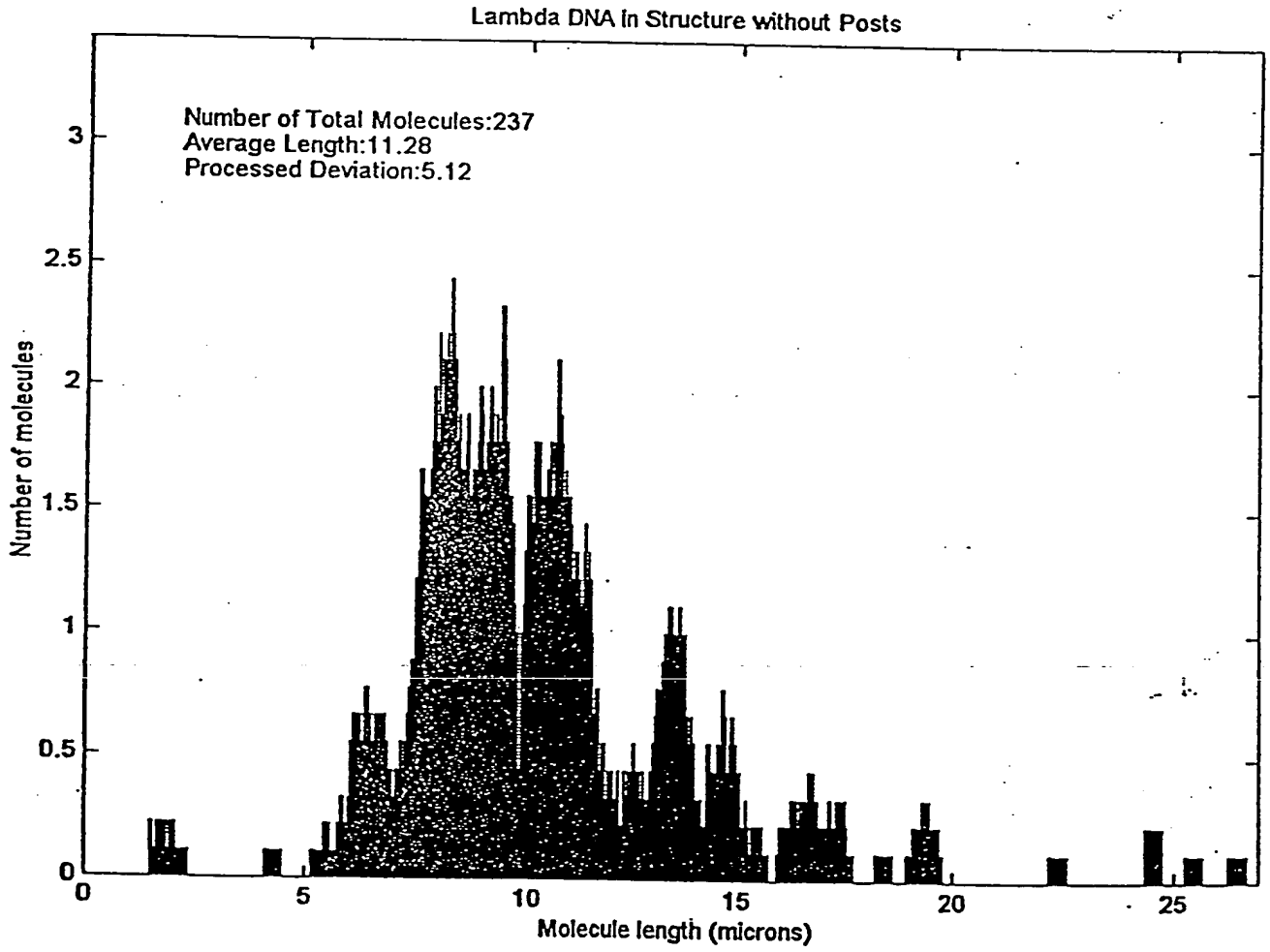

Lambda DNA in Structure without Posts
Number of Total Molecules:237
Average Length:11.28
Processed Deviation:5.12
Number of molecules
Molecule length (microns)
0
0.5
1
1.5
2
2.5
3
0
5
10
15
20
25

FIG. 31(a)

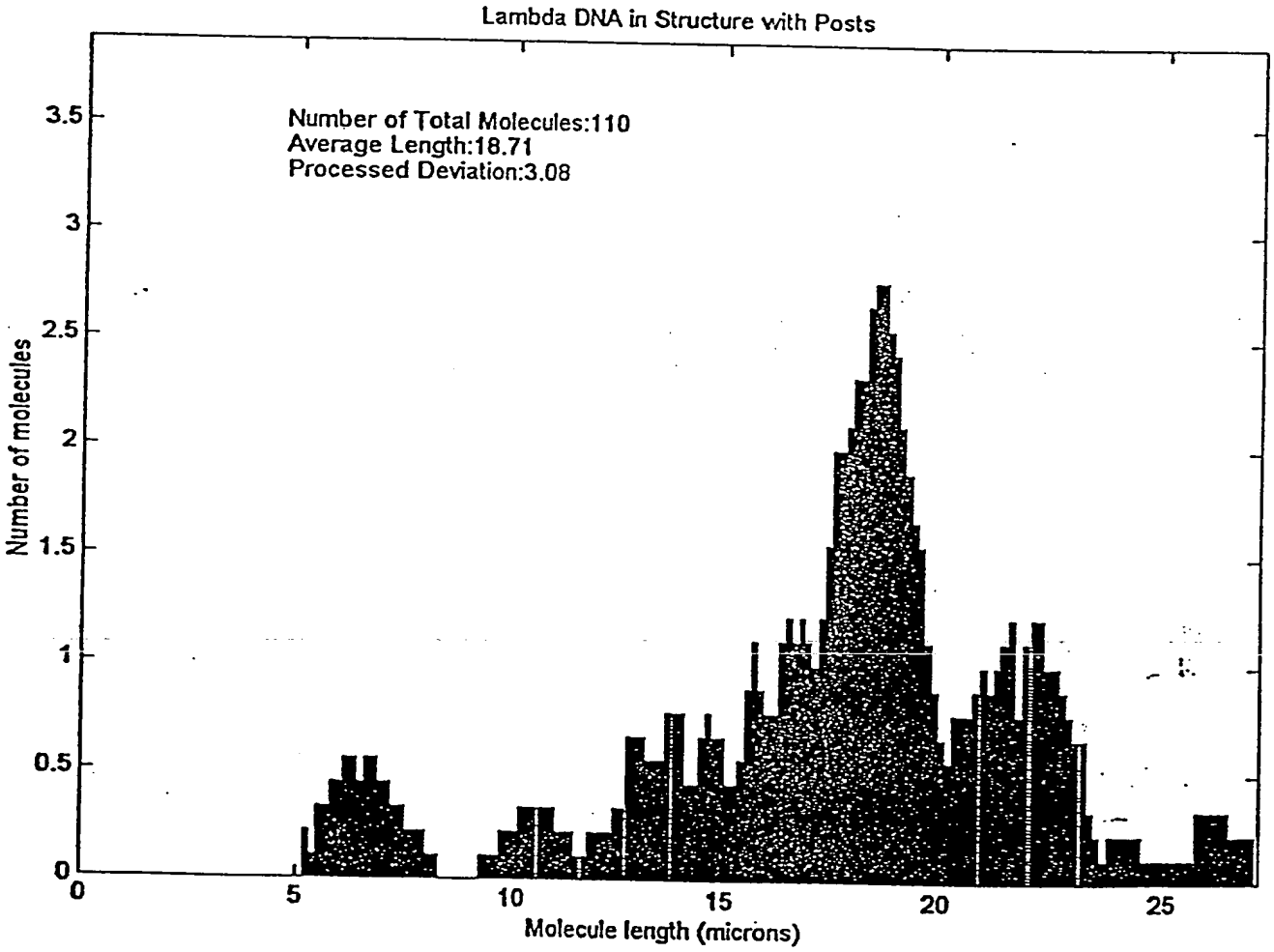

Lambda DNA in Structure with Posts
Number of Total Molecules:110
Average Length:18.71
Processed Deviation:3.08
Number of molecules
Molecule length (microns)
0
0.5
1
1.5
2
2.5
3
3.5
0
5
10
15
20
25

FIG. 31(b)

Optical Arrangement for Multiple Spot Formation

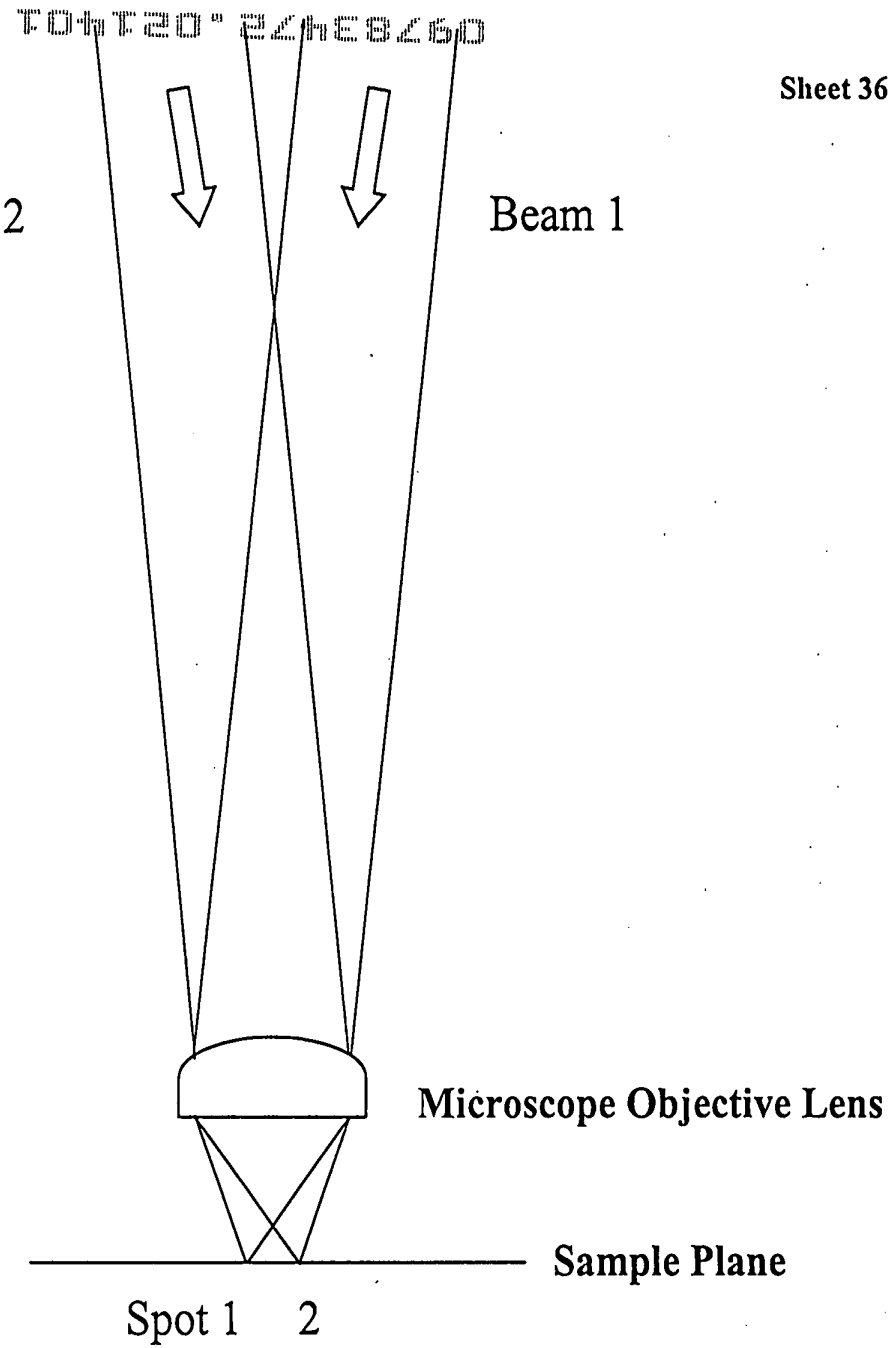
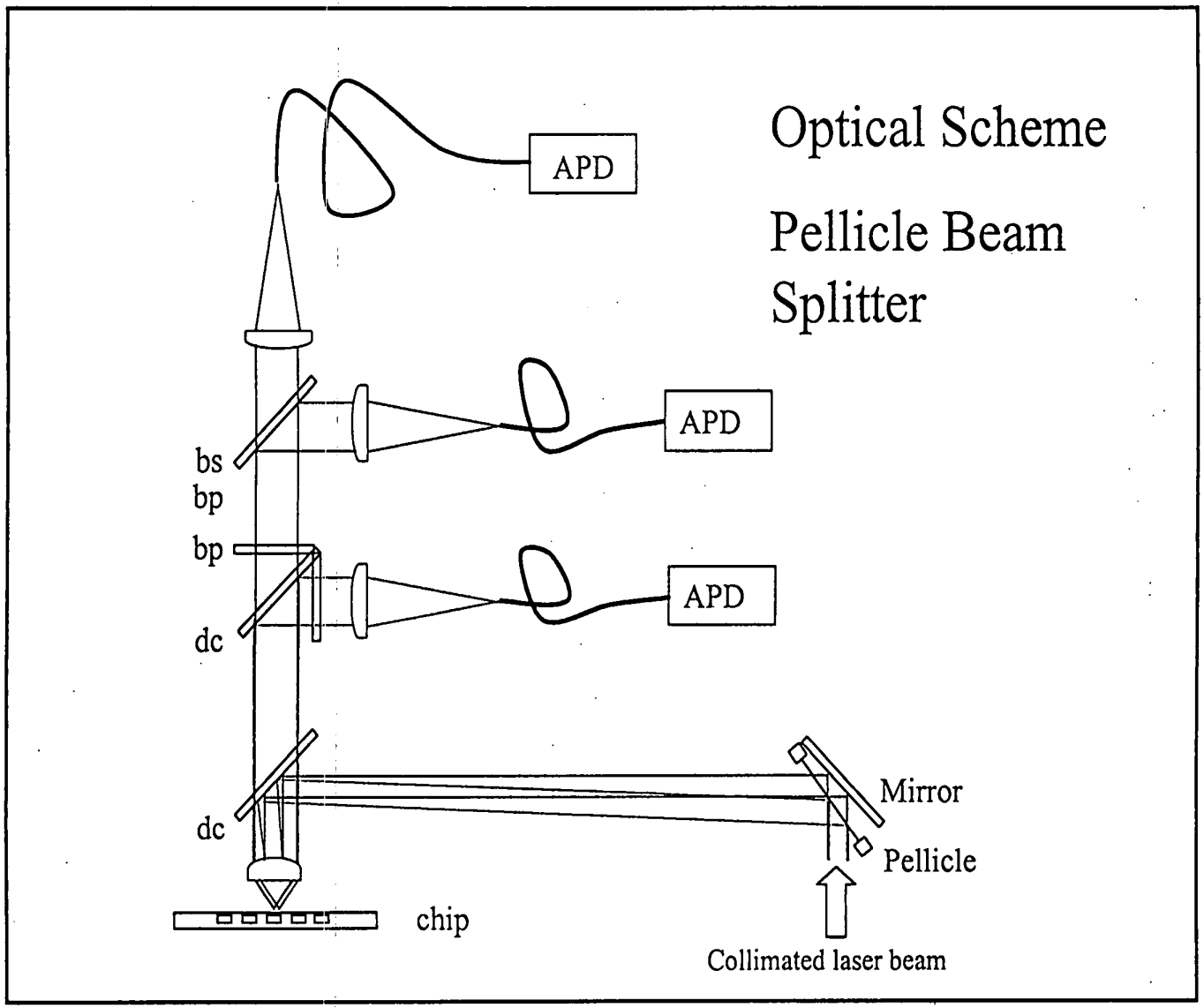


FIG. 32

10/720,247



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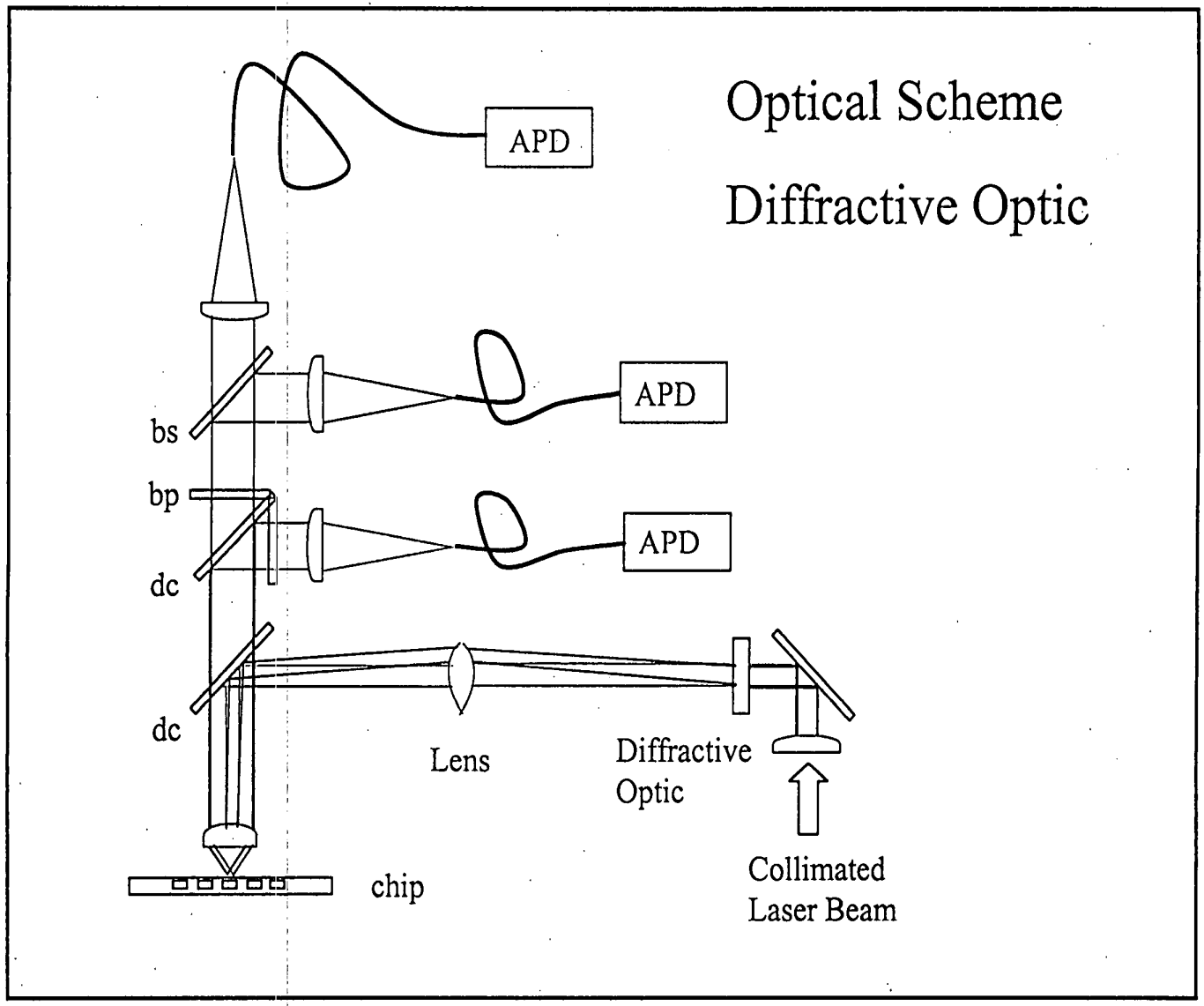
Optical Scheme
Diffractive Optic
APD
APD
APD
bs
bp
dc
dc
Lens
Diffractive
Optic
chip
Collimated
Laser Beam

FIG. 34

Optical Arrangement for Single Spot with Interference Fringes

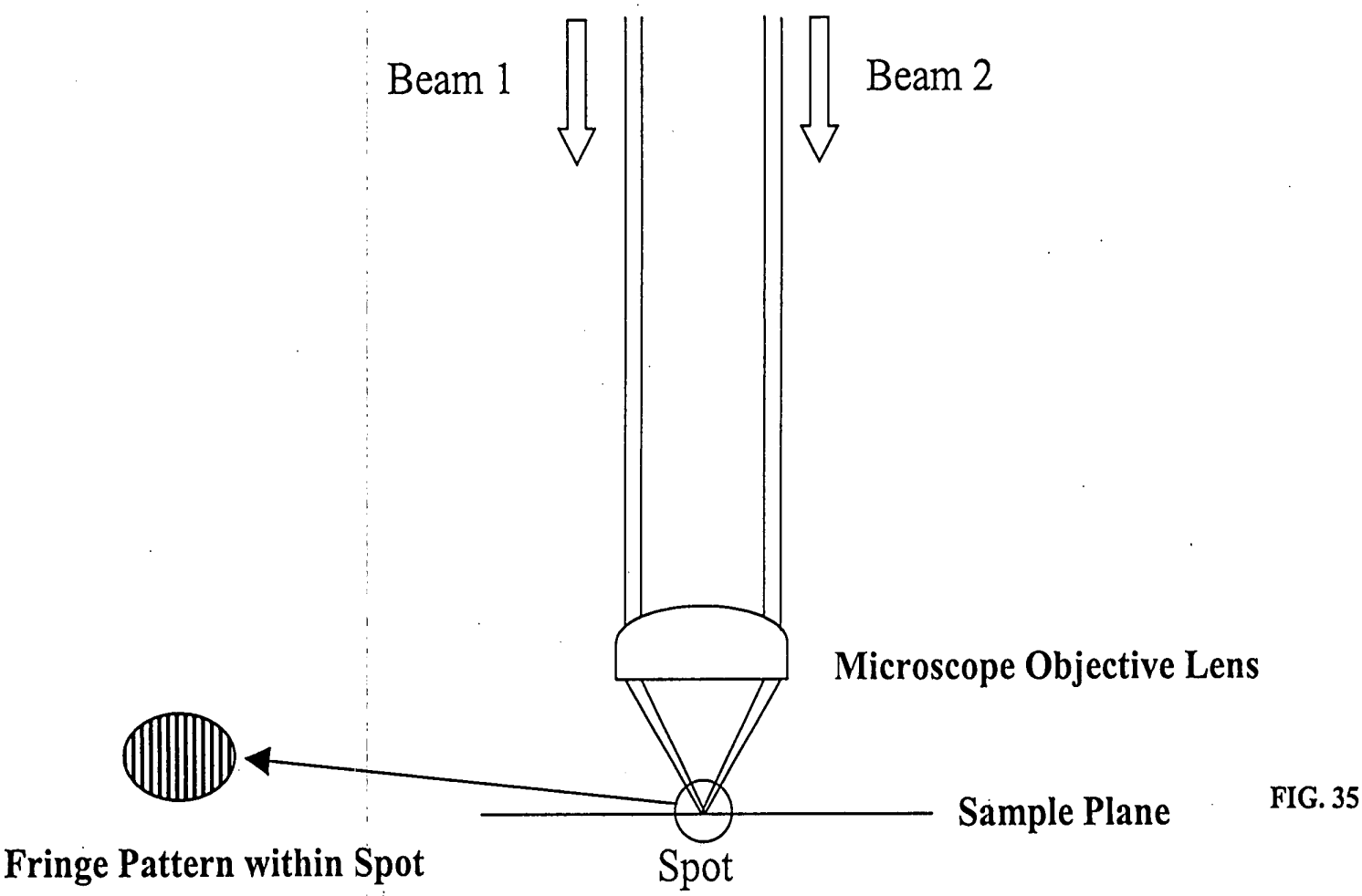

FIG. 35

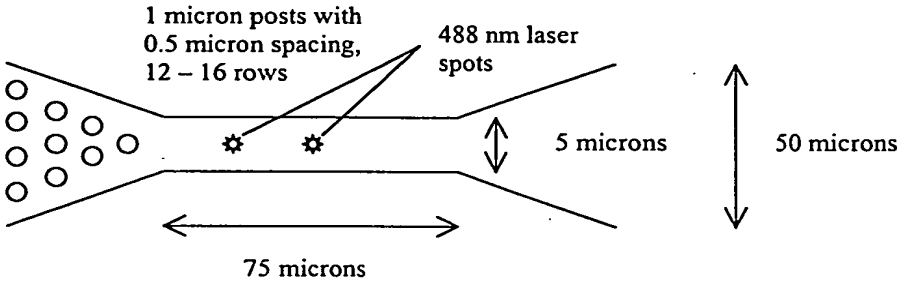

FIG. 36

Docket No. 10066-021

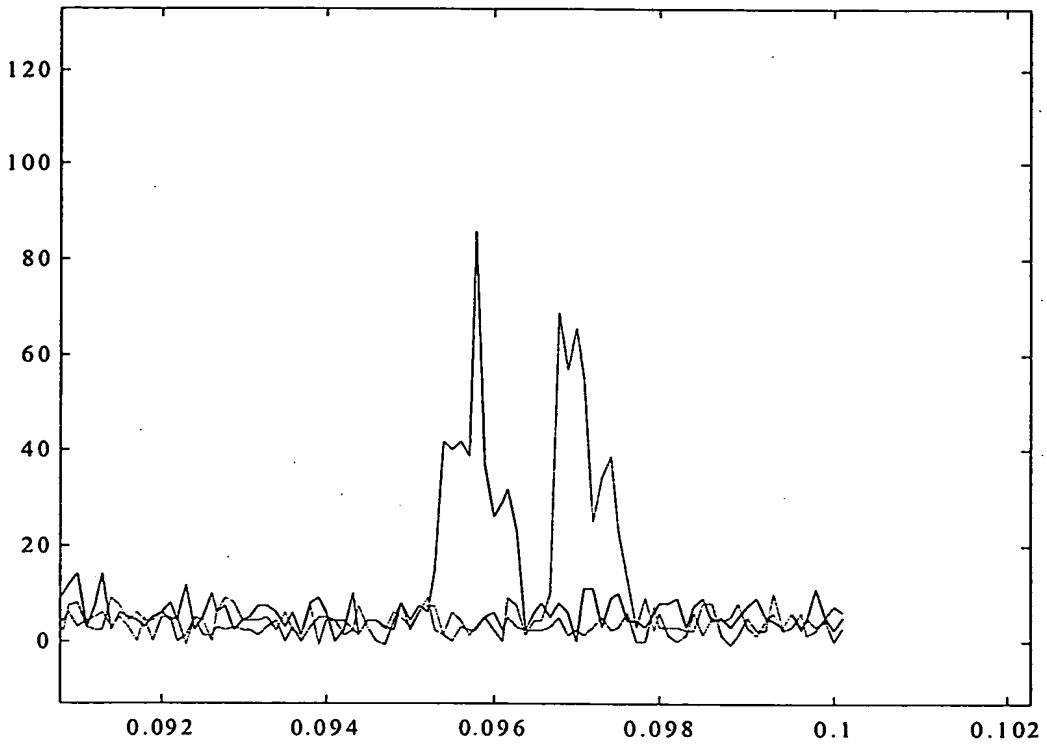

Fig. 37A

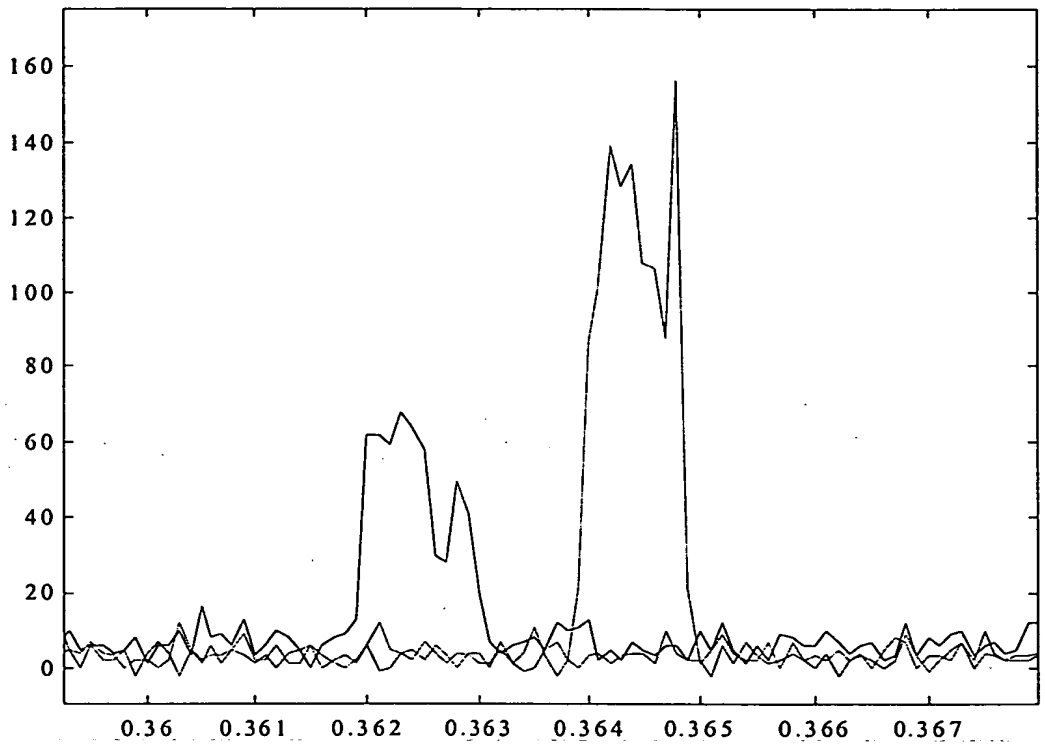
160
140
120
100
80
60
40
20
0
0.36
0.361
0.362
0.363
0.364
0.365
0.366
0.367

Fig. 37B

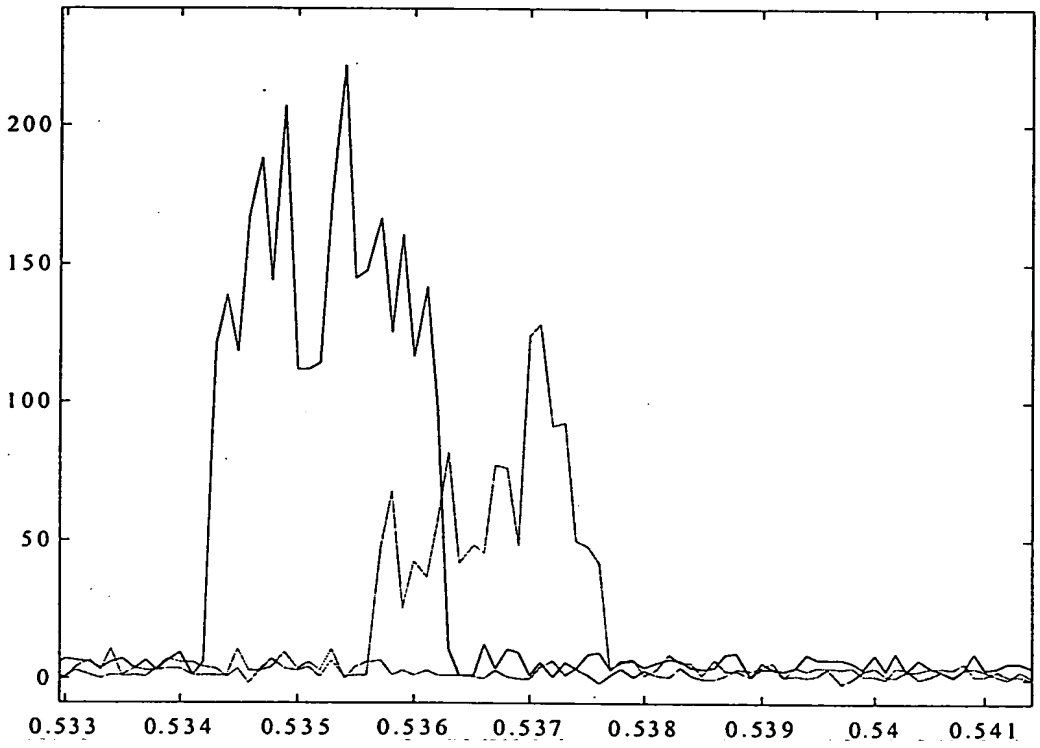

Fig. 37C

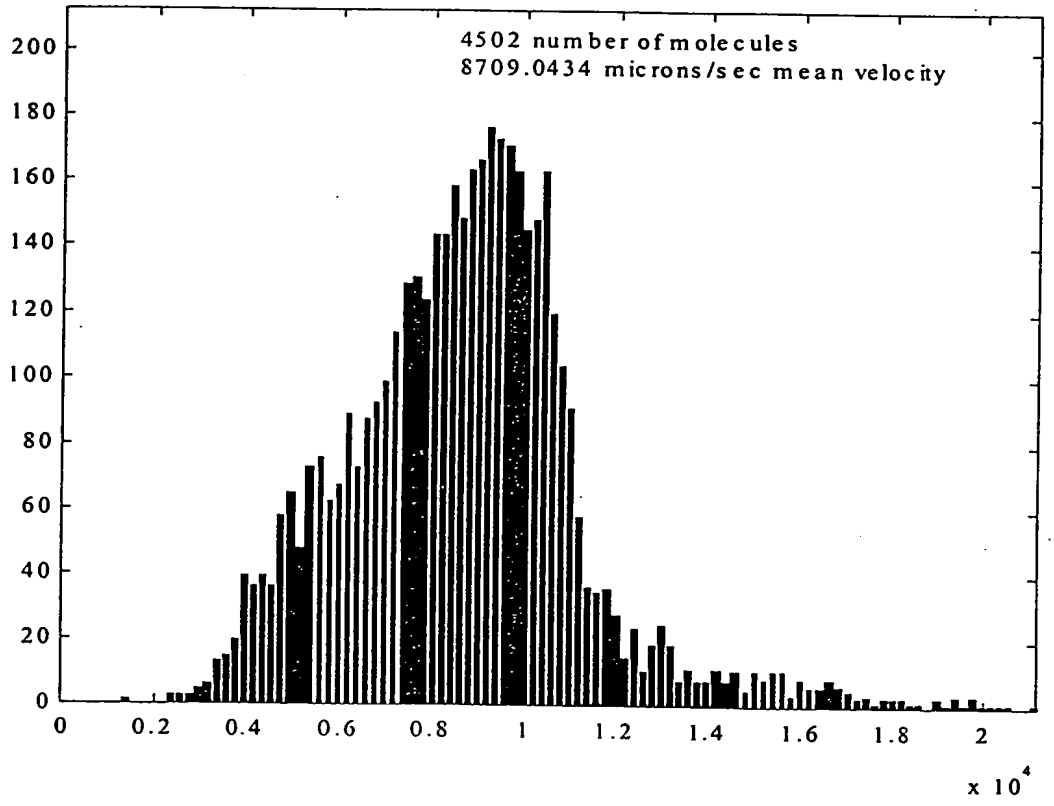
4502 number of molecules
8709.0434 microns/sec mean velocity
200
180
160
140
120
100
80
60
40
20
0
0
0.2
0.4
0.6
0.8
1
1.2
1.4
1.6
1.8
2
x 10^4

Fig. 38

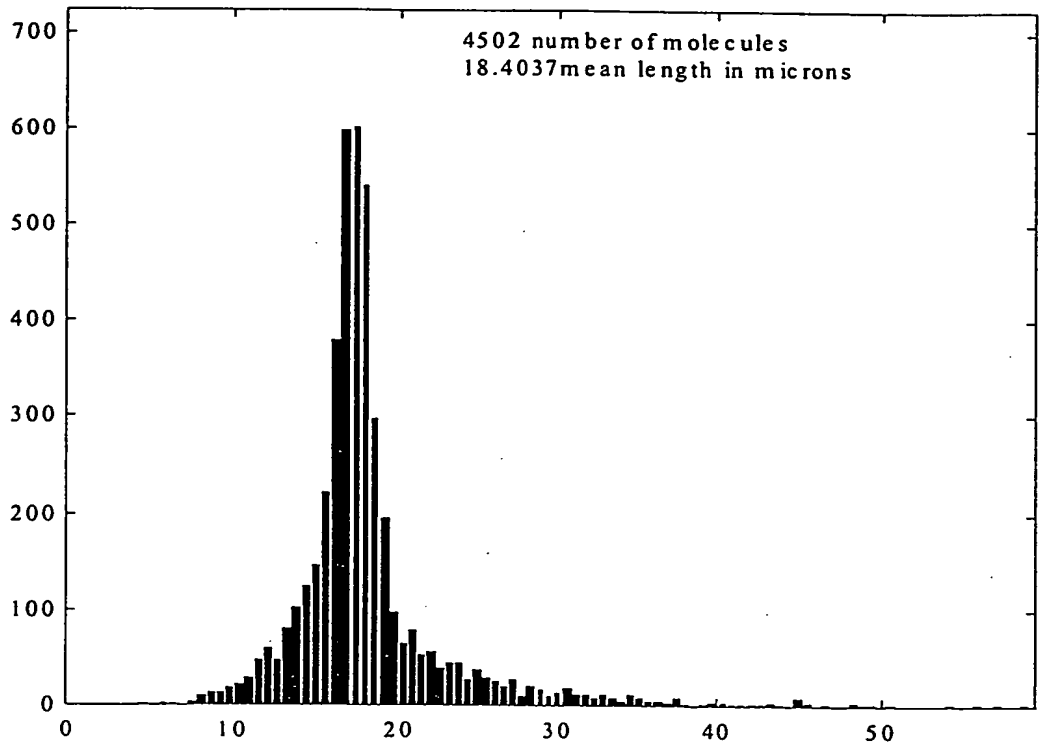

Fig. 39

Replacement Sheet